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#### Partial Contents of Sept. Issue

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#### THE GOLDEN SWAMP-A Thrilling New Serial .

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## WHERE to Learn to Fly



All schools found in this directory are recommended by the Macfadden Aviation Advisory Board and can be relied upon as being schools of high character and standards. No school is acceptable in these columns until it has passed the standards set by the Macfadden Aviation Advisory Board, and its advertisement here testifies to its high rating.

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ONTINUING the discourse in - the last issue of Model Air-PLANE NEWS on the subject of learning to fly and where, let us take a few of the human attributes which play a large part in the success or failure of one's first venture into the realm of aviation.

There is a Latin adage-Per ardua ad astra-which is the motto of a famous flying corps and, translated, means "By hard work, to the stars." We repeat-by hard WORK. . . .

Eradicate at once from your mind any impression you may have received that flying, as is often erroneously inferred, is merely a matter of "giving her the gun" and "pushing forward the stick" and hoping to goodness that everything comes out all right.

Far from it!

It is safe to say that there is no other profession in the world in which the human element counts for more than in aviation and the outstanding principle adopted by all successful air-men is "Preparedness and Caution."

To be prepared, is to know. To know is the reward of studious application to the subject in hand. Start in at the bottom and absorb every particle of information you can obtain concerning aviation. There is no place in the game for the man who only has "a rough idea" of what it is all about.

Make everything about it second nature to you. Play safe on every occasion. Do not take anything for granted. Your most trusted mechanic MIGHT forget to do something once and, as he never had faltered before, you might take it for granted that everything is all right.

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That, perhaps, is the chief principle-Do not trust yourself in the matter of "thinking" something is all right. Make sure! If you are taking a course and your instructor says something, the purport of which you do not understand, do not hesitate to make him repeat it as often as necessary until you realize what he means. It is not safe-nor sane-to let anything slip by.

Few people realize the mass of details connected with the apparently simple art of piloting a plane. Nor do they realize that piloting is but one phase of this vast subject known as aviation. Therefore, it is up to you to concentrate on the art and to apply all you know at the right time and place. To do this, of course, your mind and body must work in perfect coordination, which means that you must be physically fit.

To be healthy in body is to be healthy in mind and nowhere is a healthy mind needed more than in flying; for simultaneous thinking and acting are essentials to good piloting.

The Macfadden Aviation Advisory BOARD in the last issue of MODEL AIR-PLANE NEWS published a list of nineteen essentials connected with a complete ground course in flying, which in themselves amply indicate the scope of the subject you have taken in hand. Master each one thoroughly as you go along. Apply yourself to the task and remember, above all, that your task, as hard as it may seem, will be infinitely easier than those of the pioneers before you, whose brains and lives have been given to perfecting an art and profession which, before many years have gone by, will supplant all other means of transportation and communication throughout the world.

Aviation is a profession which calls for the best in you, which tolerates no smallness, in which nerve, vigor, health and devotion to duty stand out as the beacons guiding the way to success-and then only Per ardua ad astra.

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# A Story of Two Aviators Who Were Foes and Gentlemen

# Champions of Chivalry

"ERMAN or no German, he's a gentleman," said Larry Davis, toying with the stem of his wineglass, "and if ever I get out of this little shindy alive he's one man whose hand I'm go-

ing to shake. I certainly would like to know him."
"Agreed, old top. I'm with you there," chimed in
Charlie Appleton, the youngest ace in the room. "He's
a gentleman in the true sense of the word—one who is

gentle."

"And yet he can fight like all the devils in hell." It was Tony Leighton who spoke—Tony, who was conceded to be the best flyer of the crew. After a moment's contemplation, he continued, a queer note in his voice.

"I, for one, owe my life to him. A dog-fight of course. He had me finished. I thought it was all over but the official notice to the folks back home. What chance did I have with a slug in my shoulder and a dead engine? I expected him to finish me off and be done with it. But no. He saw I was out of the scrap for at least six months anyway, so he waves me back over our own lines and dives for two of you boys."

"That's just it," commented Larry Davis.
"I have never yet seen him press an advantage, when it meant the death of some one.
He only fights when the odds are against

him."

"Strange, that," Sandy Burns mused, "the old cavalier tradition. Beau Gallant as it were. He disdains to attack a single plane. He always looks for two of us to battle. Guts and a sport, is what I say."

"No question about that; he's the real thing, boys," continued Davis. "Did any of you see what happened this morning?"

No one spoke. All waited for him to continue, "I guess you all know that young Shaw pancaked this morning while landing. Not his fault, I know. This story is nothing against him. He's just a kid and should be

out of this mess altogether. And surely, he shouldn't have been sent over the lines until he had found him-

self and got hard.

"B UT that's neither here nor there. This morning early, before anything was doing, they send Shaw up to get some prints of that gun position that has been raising so much rumpus. Before the kid climbed into the office, I saw he was pretty shaky. His first trip over the line and all that. You couldn't blame him much. He's just a kid you know. Well, he managed to get off somehow, but when I saw that set look on his face I knew he was scared, and scared badly. I worried about him. Well, to make a long story short, I went

after him, thinking that if I were there it would steady him.

"I'd been in the

"I'd been in the air only a few minutes when I saw young Shaw and right on his tail was the Count. My heart sank. When he saw he was pursued, Shaw must

have gone all to pieces. He just got rattled and didn't know what to do. He was even too paralyzed to dive. "'Too bad; he's just a kid,' I thought. I gave my ship all the throttle she had, but I knew I would be too late. And then, just as I expected to see the kid go



crashing, the Count banks and draws up alongside him. The Count must have known that something was wrong some place. Well, he took one look at the kid's scared face and I guess the whole situation came to him in a flash. I pulled up just in time to see him smile at Shaw, wave him a friendly greeting of encouragement and shoo the kid back home. Then he immelmanned, not even bothering about me, and in a minute he disappeared



Albatross and Camel Spat Steel with Equal Fury, but Their Pilots Held One Thing Dear, So-

Gently Sandy brought his ship's wings several feet above and slightly over that of the Albatross. Larry hurtled through the

over toward his own lines. "Of course, I didn't follow and I think the Count knew very well that I wouldn't. The rest you know. Shaw cracked up coming down but, thanks to the Count, he's got

that first bit of seasoning he needs. Yes, he's a gentleman-the real thing."

A momentary hush fell over the mess-room of the 104th Aerial Squadron, quartered at Issoudun, as Davis finished his story. Lolling at ease around the long board, after a strenuous day of maneuvers, were the crack pilots of the squadron. Many of them have now gone to the Great Beyond; many of their names are

now but fond memories in the hearts of wives and sweethearts, but so long as chivalry and heroic deeds survive as shining ideals, no dust can lie thick enough on yellow war-department files, to dim the glory of their sacrifice.

THE peace, security and comradeship of friends after dangers lived through together is a fine thing. Under its persuasive charm, hearts warm and bitterness is a thing for demagogues. New values are seen in new lights, and friend or foe, a man's a man if it is God's intention.

There was no one among them there, daring flyers that they were, but would gladly cede the point that the mysterious, gallant German ace of whom they spoke was a gentleman. All of them had flown against him; had traded sizzling death with him from red-hot Lewis guns. But if in the future, the fates of war should ever favor any man there with a victory over the Count, he would see him go crashing to death, thousands of feet below, with a sob of regret.

Again Larry Davis broke the silence. He stood up at the table, resting one hand lightly on the back of his chair. All again turned to him and smiled in response to the curious, quizzical light they saw in

"Gentlemen," he began and he held to the light his glass, "gentlemen, I have a toast to propose." Another silence as they all waited for him to continue, knowing that Larry Davis was in earnest. "A toast and it is this: To youth! To heroic youth with its spirit of gallantry. To youth that fights with a clean heart, not to kill, but because it is the game. To youth, with the prayer that it be merciful when strong, for a day shall come for all of us, that will discover our weakness. And to finish—a toast to our gallant enemy, who personifies and gives reality to these words."

Lieut. Lawrence Davis looked straight ahead, his gray eyes showing an unwonted softness. As his words ended, every man in the room rose with one accord and, raising their glasses high, they drained them to the last drop.

THE next day and the few following ones passed uneventfully. No German planes came to play a death game of hide-and-seek with the Yanks in the clouds. Only the noise and pounding of distant guns and dull flares in faraway skies told where the fighting still raged.

The word went around that the Germans were consolidating their position, bringing up guns and additional reserves before beginning another tremendous offensive, which they hoped would sweep through the

American lines.

Late one afternoon, resting at ease on the beds in their quarters, lay Larry Davis and Sandy Burns. They had been discussing again their favorite subject, the German Count. Larry lit his third cigaret in as many minutes and inhaled the acrid smoke deeply.

"Darn it," he said, jumping up from his cot, "I feel

jumpy today."

"Nerves, old man," jokingly replied Sandy, "Careful,

don't let them get the best of you."

"No, Sandy, it's not that. I'm not cracking. It's this inactivity."

"Easy, easy, lad. It will be a long time before this war is over. Plenty of chance yet for you to cash in your chips, so you might as well lay back here and enjoy another fag while you can."

Larry paced the six feet of space between the two

beds.

"Sandy," he said at last, "I feel that something is

going to happen."

"You're right, lad," came the laughing reply, "just you wait till Fritzi gets those guns in position. Then the fun will start."

"No, no, you don't get me. I don't mean that. I mean something is going to happen to me."

At this Larry sat up and looked at his companion out of the corner of his eye. He was serious at last.

"Sit down, old man, and have a smoke. Why don't you ask for a ticket of leave for a couple of weeks? You've

had too much of this dog-fighting racket."

Larry shrugged his shoulders impatiently. "Don't be an ass, Sandy. Despite what you think, I'm not cracking. I tell you I've just got a feeling something is going to happen. I feel that I'm going to meet our old friend the Count—and then watch for the fireworks."

"Well, if you do, my compliments to him and tell

him I think he's a brick."

"Right-o, old top. I'll tell him that. Come on, give me a hand. I'm going down to look over the old bus. I've got a hunch I'll need it." With these words, Larry pulled the unwilling Sandy off his bed and the two started for the improvised hangar.

They had been working over the Camel for but a brief half-hour when an orderly approached and saluted. "The S. C. wants to see you, sir," he said to Larry,

Larry wiped his hands on a piece of waste.

"I kinda thought as much," he said to Sandy, "it

looks like my hunch was not so far off after all. Give you the dirt later," he called back as he followed the orderly to the office of the S. C.

Major Richards looked up from his desk as Larry entered. After the casual salute, for there was little formality between them, the major spoke.

"Sit down, Larry."

When the lieutenant was seated, the major hitched his chair closer and spread out a map between them.

"I have information," he began, "from a pretty reliable source that the enemy is concentrating some big guns here." He indicated a spot on the map. "You can see its strategic importance. If it is true and they succeed we will be in an awkward position—practically flanked."

Larry nodded his understanding and the major continued.

"I must know the exact position of their guns and their number. Tonight there is no moon till late and heavy clouds are rolling up now. You know what I want. Can you do it?" Major Richards looked squarely at the clean-cut, determined face before him.

As far as Larry was concerned, the interview was over. Drawing himself sharply erect, he saluted

smartly.

"I'm your man, Major," was all he said.

"It's hell, son, I know," continued Major Richards. "The chances are ten to one against you. I hate to send you out but..." He left the thought unfinished.

The major was right. There was no moon that night as Larry wheeled out his Camel preparatory to the take-off. Banks of heavy, smoke-charged clouds hung low in the heavens. He climbed into the cockpit, nerves tingling with a strange, expectant excitement. What if the odds were ten to one against him? Anything is possible when one is young.

"Contact!"

At the word Sandy spun the big propeller. A sputter—a roar—a blaze of flame from the exhaust—and the motor hit on every one of her twelve cylinders. The drone of his engine as he jazzed the throttle was reassuring to Larry's ears. He glanced once over the instrument-board and settled more firmly in his seat. Then, he opened her wide till the engines raced in high crescendo. Perfect! He congratulated himself on his half hour of work that afternoon with Sandy. All was in readiness. His objective lay twenty miles behind the German lines.

He throttled his motor and Sandy leaned over the cockpit for a final farewell.

"Well, cheerio, old thing," Larry cried and laughed at him. "Keep the kettle boiling till my return."

SANDY squeezed his hand in reply. With a staccato roar of engine, Larry raced down the short field, zoomed sharply and straightened out gracefully, a hundred feet clear of the church steeple. In a second he disappeared into the gloom while Sandy listened until the drum of his engine became lost in the incessant distant roar of the artillery.

The major had been right about those clouds. They banked lower and lower. Not a star showed through to guide Larry as his Camel humped through the air. He looked at the twinkling light over his altimeter, which registered a little above 4,000 feet. Pulling his stick gently back, he climbed for more altitude. Higher and higher the plane ascended. No use, he thought, to announce his coming by the roar of his engine. They would know soon enough when he got above their fortifications, for then he would have to descend dangerously low.

Guided more by instinct than anything else, he climbed to 10,000 feet from which altitude the world



seemed asleep and at peace, but Larry knew that just as soon as he came down and was spotted, the German anti-aircraft guns would awaken all the dead echoes of

the night.

Judging he was far enough inland, he banked, killed his motor and nose-dived straight down. At 2,000 feet

he pulled his ship out of the dive and flattened out. As he opened his throttle again and as his motor answered the flow of gas with a deafening roar, things began to happen.

Suddenly the immense, blinding eye of a searchlight lifted its bright shaft into (Continued on page 44)

#### The Macfadden

National
Model Airplane Meet
at Detroit

Donald Burnham, age 14, of West Lafayette, Indiana, broke the world's record for sustained flight of model airplanes at the National Airplane Meet held in Detroit. His ship remained in the air 10 minutes and 30 seconds

Wide World Photo

AVORED by hot clear weather, which greatly aided the working of the models, the National Model Airplane Meet held recently at Detroit was voted a sucess—in capital letters. There were 200 competitors, including some who came from as far as Hilo, in the Hawaiian Islands in the West, and from Providence, R. I., in the East. It is significant that world records were established in both the outdoor and indoor contests, records that had stood four and five years respectively.

Diligence and assiduous attention to detail won for three boys a trip to Europe in addition to the first-prize money. These boys are Joseph Culver, of Oakland, Calif., winner of the indoor record; Donald Burnham, of West Lafayette, Ind., who captured the outdoor contest, and Louis Proctor, of Vancouver, Wash., winner of the scale-model contest. Culver kept his model in the air for 8 minutes 33 seconds in his preliminary flight, but only managed a flight of 4 minutes 8.2 seconds in his three trials. Burnham kept his model aloft for 10 minutes 30.2 seconds over Selfridge Field, and Proctor, who sent in his entry by mail, being unable to attend the meet in person, scored 94 out of a possible 100 points with his scale model of the Vought Corsair, a plane used by the Navy.

In the senior division, following Culver, who is an 18-year-old University of California freshman, were, second, Albert Mott, 18, of Detroit, 7 minutes 55 seconds; third, Ernest McCoy, 17, of Detroit, 7 minutes 39.4 sec-

onds; fourth, Yoke Wai, 16, Chinese, of Detroit, 7 minutes, 35 seconds, and fifth, Norbert Foley, 17, of Columbus, Ohio, 7 minutes 25 seconds.

Following Burnham in the junior outdoor division were: second, George Mueller, 15, of Chicago, 7 minutes 32 seconds; third, Norman Fain, 14, of Providence, R. I., 6 minutes 55 seconds; fourth, Edward Harms, 14, of Evanston, Ill., 5 minutes 55 seconds; fifth, Lawrence McAfoos, 15, of Bellevue, Pa., 5 minutes 30 seconds; sixth, Nick Kalimir, 14, of Gary, Ind., 5 minutes 5.4 seconds; seventh, Leon Levitz, 14, of Lebanon, Pa., 4 minutes 44 seconds, and eighth, George Wood, 14, of Providence, R. I., 4 minutes 35 seconds.

In the senior division, first place was won by Herbert Dorsey, 16, of Washington, D. C., 10 minutes; second, Donald Shetland, 16, of Providence, R. I., 6 minutes 37.4 seconds; third, Ruick Meyers, 18, of Chicago, 6 minutes 22.5 seconds; fourth, Ernest McCoy, 17, of Detroit, 6 minutes 5 seconds; fifth, Herbert Fish, 16, of Akron, O., 5 minutes 56.1 seconds; sixth, Casimir Leja, 16, of Chicago, 5 minutes 29.6 seconds; seventh, Keith Swanson, 16, of Champaign, Ill., 5 minutes 15 seconds, and eighth, Edward Petruska, 16, of Cleveland, 5 minutes 12.4 seconds.

Following the meet, the competitors were entertained by an exhibition of gliding at the Bunny Run Country Club, near Lake Orion. Frank Brunk and Oscar Kuhn, both members of Gliders Inc., gave the exhibitions which aroused considerable enthusiasm.

The three prize winners then went to Ottawa, Ont., Canada, where they remained for a week, flying their models for officials of the Canadian Government. They then left for Europe by way of Montreal, and first went to Croydon, the London airport, where they took part in the model airplane competition held there. This

## Sky Cadets

The National Model Airplane Meet at Detroit and the Greater Bronx Meet at New York Are Good Examples of the Fun to be Gained Through Building and Flying Model Airplanes.

Prepare Now to be Among Those Who Will Participate in Future Meets for Learning to Build and Fly Model Aircraft

was followed by a six-weeks tour of the Continent, during which the airports of the different capitals were visited.

The majority of the contests were held in the monster Olympia in Detroit and the impression gained of the proceedings was something after the style of a bird's-eye view of an air raid in full blast. At one time there were fully fifty models in the air and the gyrations of several, plus the numerous collisions and crashes, for all the world gave the appearance of one of the famed "dog fights" of the World War.

Many of the spectators referred to the meet as the "miniature air raid" on Detroit. It can, therefore, be very readily realized that the competitors had submitted models which gave the judges no easy time in choosing between the good, better and best!

One of the surprises of the contest was the showing made by Yoke Wai, the only Chinese youth in the contest, who started to build model airplanes only a few months ago at the Case Technical High School.

Among the spectators at the indoor finals were Colonel Harry H. Blee, chief of the airport and aeronautic information bureau of the Department of Commerce; Major-General J. H. MacBrian, President of the Aviation League of Canada, and Captain C. C. Hirst, secretary of the Model Aircraft League of Canada. General MacBrian and Captain Hirst flew from Ottawa to Detroit for the meet.

One of the chief items of entertainment for the competitors of the meet was the great open-air dinner given to the boys by Mr. Edsel Ford. The tables were spread under the wings of four mammoth Ford tri-motor monoplanes, and beneath this symbol of protection and progress the boys tucked-in as boys know how. However, to have heard the technicalities which flowed fast and free between rival groups of competitors concerning the models, one easily might have thought that an advanced school of aviation was holding a convention. What those boys did not know—well!

There was no dearth of praise for the way the competition was run and the sponsors of the Detroit meet are to be congratulated on its great success.

Easily one of the chief attractions at the Detroit meet was the visit of "Miss True Story," the Bernarr Macfadden Loening amphibian, in charge of Captain Edwin T. Hamilton, editor of Model Airplane News, and administrator of the Macfadden Sky Cadets, in



plane. As a prize he was given a trip to Europe

connection with the formation of which he was on a

tour of the country.

While in Detroit Captain Hamilton was besieged with questions concerning the Macfadden Sky Cadets, founded by Mr. Macfadden himself, who is an ardent aviation enthusiast.

Many boys at Selfridge Field enjoyed flights over the air field as guests of Captain Hamilton, who reports that already there have been thousands of applications for membership in the Macfadden Sky Cadets, the purpose of which is to increase interest among the boys in model airplane construction and the forming of Model Airplane Clubs in cities throughout the country.

#### Greater Bronx Outdoor Model Airplane Contest

BRONX Boys, all members of the Macfadden Sky Cadets from whose ranks will be recruited outstanding airplane pilots, aeronautical engineers and plane designers and builders of the future had their banner day at the Greater Bronx Outdoor Model Airplane Contest on July 6 at Van Cortland Park parade grounds in New York City. Hundreds of Macfadden Sky Cadets from all parts of the Bronx, New York, entered the contest which was the largest of its kind ever held in the Bronx locality.

The parade grounds resembled the scene of a real aviation meet. Long before the scheduled hour for the start, which was 10 a. m., most of the boys were on hand with their different types of craft for the various

events. There was an air of expectancy about every one.

The rules called for three events: the first, an out-door endurance contest for hand-launched pusher and

tractor-type planes; the second, a special contest for large R. O. G. (Rise off the Ground under own power) planes; and the third event for high-speed over a measure of 200 feet.

Each contestant was allowed three trials in each event; his best score standing as his permanent mark for the event.

Excitement and friendly rivalry were manifest from start to finish of the meet, and particularly at the close of the last race of the day when it was discovered that two planes were tied for the high-speed honors, necessitating two run-offs.

During the different races of the afternoon three of the Cadets, Kenneth Grunewald, Leo Levens and Jerry Weisinger (the "Three Musketeers") had accidents with their medels and joined into partnership in the construction of a makeshift model in the hope of winning some points in the high-speed event. Grunewald was selected to pilot the plane and sent it on a flight which covered the measured course in four (4) seconds flat. This time was equalled

by Ben Sherashaw a few seconds later when he sent his plane over the same distance in 4 seconds flat too. This tie called for a run off and both starters prepared once again for flight.

On the run-off Sherashaw clocked off the distance in three (3) seconds flat, and it really looked as if he would be the winner; but the "Three Musketeers" were not to be beaten in this heat so Grunewald sent their trusty little speed plane across the finish line also in 3 seconds flat.



#### Join the Macfadden Sky Cadets

Here is a chance you have all been looking for! Form a club in your city of all air-minded boys and girls who are interested in the building and flying of model airplanes, and then let the MACFADDEN SKY CADETS do the rest.

#### WE SHOW YOU HOW!

If you already have a club formed that is not doing as well as you think it should—if it has less than fifty members—if it lacks enthusiasm—if you need instruction as to club activities—join the MACFADDEN SKY CADETS and leave the rest to us.

The MACFADDEN SKY CADETS are forming clubs all over the United States and Canada—in churches, schools and organizations of all types—for boys and girls who are air-minded, or wish to be.

Take part in the many national tournaments being held all over the country. Win prizes! Become a leader—a Squadron Commander—a Flight Commander, as thousands of Sky Cadets are doing!

Any boy or girl, or any group of boys or girls, or any club already formed, who wish the help of the MACFADDEN SKY CADETS, fill out the form below and we will gladly send all information necessary.

Full Name
Address
CityState
Have you a club already formed?Do you wish to form a club?How many can you interest in your city?Boys?Girls?
Mail this to the Macfadden Sky Cadets, Macfadden Publications, 1926 Broadway, New York City.

This made second run-off necessary and both boys renewed their rubber bands for another test. In this next and final heat Grunewald clocked off 3-1/5 seconds or nearly 40 miles per hour and the best pilot Sherashaw could do was 4 seconds flat. In winning this event the "Three Musketeers" won a large silver cup as first prize, and for second award Sherashaw received an autographed volume of the recently published "Sky-Larking" which was written by a well-known flyer, Bruce Gould. Third place in this event went to August Krohn whose plane covered the distance in 5 seconds.

The first event of the day was for hand. launched endurance planes and many large outdoor models were entered. However, as there was no breeze to aid prolonged flight, it was practically impossible to equal or surpass any of the established records.

The results of this event were as follows:

1.—Charles Esposito—with twin-pusher—4 minutes, 4 seconds.

2.—August Krohn—with

twin-pusher—2 minutes, 16 seconds; this was a bit slow. 3.—Herbert Baasch—with twin-pusher—2 minutes.

The award for first place was a beautiful silver cup; and for second place a solid-gold engraved aviation ring.

The second event of the contest was for giant R. O. G. models and was won by August Krohn with a flying



ABOVE is August Krohn, age 14, who is holding the solid-gold aviation ring which he was awarded for winning second place in the hand-launched endurance contest. He won first place in the R. O. G. endurance contest for which he received a silver cup. The large silver cup in the picture was awarded to him for winning the highest number of points in the contest as well as the title of Champion Model Builder of The Bronx, New York

model of original design. This plane piloted itself off the ground and stayed aloft for 44 seconds. Secondplace honors went to Howard Lincke, whose flying replica of the transatlantic Bernard monoplane "Yellow Bird" came a close second to that of Krohn's.

First award in this event was a large silver cup; and second award was a beautiful silver miniature of Colonel Charles A. Lindbergh's Spirit of St. Louis, the first airplane to negotiate a successful flight from New York to Paris, France.

This miniature was appropriately mounted on a specially carved base.

In all the events a point score system was kept of the 1st, 2nd and 3rd place winners; allowing 5 points to first; 3 points to second and 1 point to third place. The highest point winner of all events was classed as the Champion of The Bronx and received the most coveted prize, a special silver cup standing about 20 inches high. The proud title holder is August Krohn by virtue of having won 9 points out of a possible 15. The following are the point scores for the day:

August Krohn-9 points; Charles Esposito-5 points; Kenneth Grunewald and partners-5 points; Howard Lincke-3 points; Ben Sherashaw-3 points; Richard McManus-1 point and Herbert Baasch-1 point.

One of the great surprises of the contest was William "Buddy" Fisher, aged 8 years. This little chap although only half the age of most of the competitors showed amazing pluck and skill for a youngster. Although he did not win any place in any of the events he was awarded a special silver cup for his efforts.

Officials for the contest were: Thomas L. Bulger, President of the Associated Aviation Clubs of America: J. R. Patent, Secretary of the same organization and Lieutenant Reid Lumsden of Castle Heights Military Academy at Lebanon, Tenn., who acted as judges. The timer was William Fehlhaber of the New York Timers' Club.

The winners of the contest experienced the "thrill that comes once in a lifetime" when they were presented with their respective awards from the stage of the B. F. Keith's Fordham Theatre, the Bronx. Captain Edwin T. Hamilton, administrator of the Macfadden Sky Cadets officiated at the presentation. In conjunction with the presentations Captain Hamilton outlined to his large audience what model aviation was all about and its relationship to present-day American youth and what the aviation industry holds in store for them in the future. He also explained the activities, both present and future of the Macfadden Sky Cadets and was loudly acclaimed by the audience. Such response was a wonderful tribute to the work founded by Bernarr Macfadden, and an indication of its great progress in the future.



Hundreds of boys with beautiful miniature models of aircraft gathered together recently at Los Angeles, California, to dedicate the first junior airport in the United States. Above they are shown testing the flying abilities of the numerous planes in one of the cockpits of the field

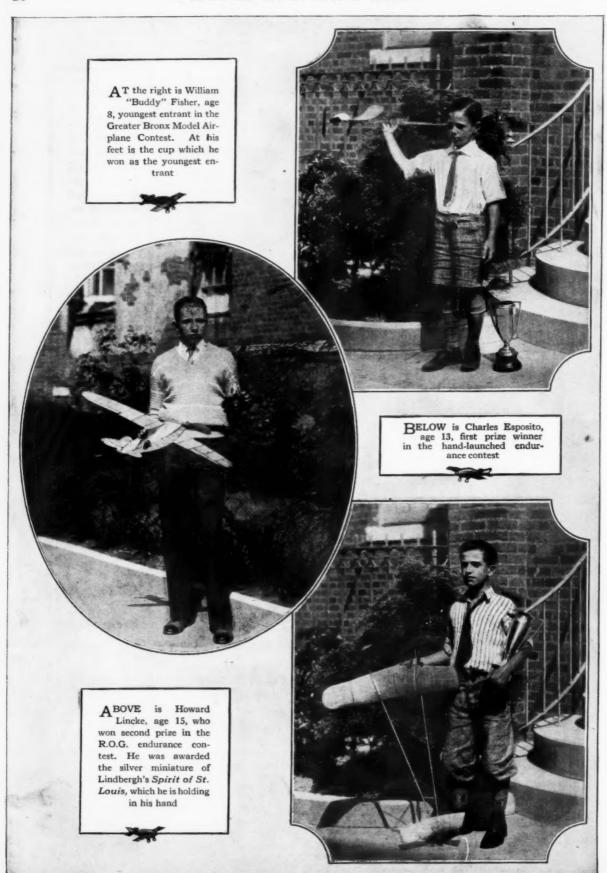


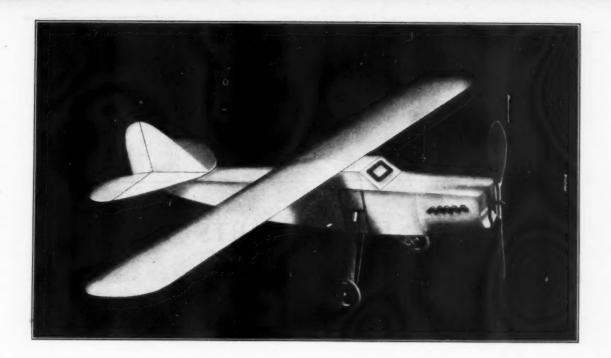
THE "Three
Musketeers"—
Leo Levens, 14,
Kenneth Grunewald, 14, and
Jerry Weisinger,
14, combined
winners of the
high-speed contest. They hold
the silver cup
which they were
awarded

WINNERS of the Greater Bronx Outdoor Model Airplane Meet. Reading left to right, rear row: Kenneth Grunewald, 14; Leo Levens; 14; Howard Lincke, 15; August Krohn, 14; Front row, left to right: Jerry Weisinger, 14; William "Buddy" Fisher, 8, who was the youngest entrant; and Charles Esposito, 13. On the ground before them are the beautiful trophies which they were awarded









# How to Build a Model of the Bernard Monoplane "Yellow Bird"

Here Is a Full-scale Flying Model of the
Famous French Plane Which Recently Flew the Atlantic
Complete Instructions, Diagrams and
Full-scale Assembling Layouts Are Contained in This Article

NE of the neatest, most attractive and newest of flying-scale models is the Bernard Monoplane, the famous French plane which recently spanned the Atlantic Ocean. This plane carried four men across the water on a historymaking flight, only to fall short of their desired destination.

The model of this famous French plane is equally attractive, having in general all the lines and details of the real plane. The wing spread is 37 inches, placed almost exactly in the middle of the fuselage. The total length of the body is 32 inches, including the rudder.

#### HOW TO BUILD

THIS model can be completely built before covering up any of the parts. It has a dummy aluminum motor hood, with dummy exhausts glued on the metal. It has a simple landing-gear and, although this model is very easy to construct, it is one that will stand out among the finest built.

There are only a few parts that need bending. This can be done in the usual way by steam or hot water,

placing the parts in a container and letting them soak for several hours,

#### **Necessary Material**

5 pieces	White Pine 1/4"x1/8"x4' long
3 pieces	White Pine 1/8"x1/8"x4' long
2 pieces	White Pine 3/16" square
5 Ribs	6" long
3 feet	3/32" reed
2 feet	1/8" reed
1 foot	3/16"x1/2" stream-lined wood
10	1/2" corks
2	2" wheels, rubber tired
1	12" axle
1 piece	34-gauge aluminum 4"x12"
1	10" propeller
1 .	propeller shaft
13 feet	3/16"x1/16" flat rubber
3 sheets	Japanese tissue
1 can	cement
1 can	bamboo varnish

#### Forming of Parts

B 2 pieces 1/4" 1/8"x 28" long.

K 2 pieces 3/32" reed 16 1/4" long.

L 2 pieces 3/32" reed 7 1/2" long.

I 1 piece 1/8" reed 17" long.

W 1 piece 1/8"x 1/4"x 9 1/4".

#### **Fuselage**

THESE, of course, are to hold the sides together, forming the shape of a fuselage, and are nailed between A and A and B and B respectively. These consist of 2 pieces \(^1/8''\x\)\(^1/8''\x\) 2 3/16" and 2 pieces 3/16"\x\)3/16"x 1\(^1/8''\). With this much completed, continue to strengthen up the inside of the fuselage around the landing-gear at the center of the plane near the windows.

#### KEY TO PARTS

Key	Part	Material	Amount	Síze
A	Upper Longerons	Wood	2	1/4 " x 1/8 " x 27 5/8 "
В	Lower Longerons	Wood	2	1/4 " x 1/8 " x 28"
C	Uprights	Wood	4	3/16" x 3/16" x 2 1/8 "
D	Nose Pieces	Wood	3	1/8 " x 1/2 " x 2 11/16"
E	Axle Brace	Wood	1	1/8 " x 1/2 " x 2 1/4 "
F	Rubber Brace	Wood	1	1/8 " x 1/2 " x 1 1/4 "
G	Landing-gear Strut	Wood	2	1/2 " x 3/16" x 5 3/8 "
H	Landing-gear Brace	Wood	1	1/4 " x 1/4 " x 1 1/4 "
I	Rudder	Reed	1	1/8 " x 17 "
J	Rudder Post	Wood	1	1/8 " x 3/16" x 5 3/4 "
K	Elevators	Reed	2	3/32" x 16 1/4"
L	Wing-tips	Reed	2	3/32" x 7 1/2"
M	Tail-skid	Wood	1	1/8 " x 1/4 " x 2"
N	Axle	Brass	1	3/32" x 12 "
0	Propeller Shaft	Ball bearing	1	1/16"
P	Flat Rubber		13 ft.	3/16" x 1/16"
Q	Elevator Brace	Wood	1	1/8 " x 1/8 " x 10 1/4 "
R	Wing Ribs	Wood	5	1/2 " x 6 "
S	Leading Edge	Round Wood	1	1/8 " x 35 "
T	Trailing Edge	Wood	1	1/8 " x 3/16" x 34"
U	Center Spar	Wood	1	1/8 " x 1/8 " x 36"
V	Propeller	Wood or metal	1	10 "
W	Roof	Wood	1	1/8 " x 1/4 " x 9 1/4 "

These pieces are to be placed in the form which can be made by placing the drawing on a flat piece of board and driving nails into place as outlined by large, round, black dots on the drawings. When these are set and dried, proceed with the making of the fuselage, taking the two pieces  $\Lambda(\frac{1}{4}"x\frac{1}{8}"x27\frac{5}{8}")$  and two pieces  $B(\frac{1}{4}"x\frac{1}{8}"x28")$ , cutting up 10 more pieces of the following sizes:

- 2 3/16" x 3/16" x 1 3/8"
- 4 3/16" x 3/16" x 2 7/8"
- 2 3/16" x 1/4 " x 2 3/8"
- 2 3/16" x 3/16" x 1 3/4"

The ten pieces listed above constitute the uprights running between A and B, five uprights to a side. When the sides are completely nailed together proceed with cutting up the cross members.

There are 4 pieces 3/16" square x 23%" long and these are to be nailed between C and C which are two of the uprights. There is a piece of ¼"x¼"x1¼" (H) which is to be nailed between C and C. This is used to fasten on the landing-gear strut (G). There are then two more pieces of wood to add and upon nailing these into place the complete frame of the fuselage is built: 1 piece of ½"x½"x2½" (E), to hold the axle, and 1 piece of ½"x½"x1¼" (F), to take the end of the rudder. By examining the drawing carefully you can find these ten pieces. With this much done, you will attach the landing-gear struts.

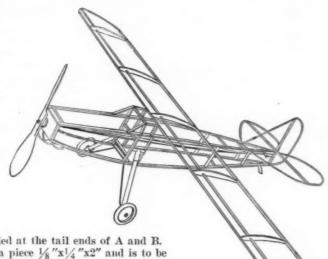
#### Struts

THE struts (G) are stream-lined wood, ½"x3/16"x 53%", of which two are needed. Drill a 3/32" hole, ¼" from the ends on both pieces. This is to hold the axle in place. The top of the strut is set into a fitting of special design. This can be made according to draw-

ing (A). This is made into a socket and screwed onto the strut (G) and then fastened to the piece H by means of a screw. The axle (N) is 12 inches long. but shape it as per drawing (B). This is inserted through the small holes drilled through the landing-gear struts (G) and fastened to the axle rest (E).

Add on the rudder post (J) at the ends of the fuselage. This is a piece ½ "x3/16"

is a piece  $\frac{1}{8}$  "x3/16" x5 $\frac{3}{4}$ " and is to be nailed at the tail ends of A and B. The tail-skid (M) is a piece  $\frac{1}{8}$  "x $\frac{1}{4}$ " x2" and is to be nailed between the two longerons (B).



at the top longerons and nail closely together as if in one piece. In the center of the middle piece drill a hole to hold the propeller shaft. On this model no hanger is used. Therefore, glue the propeller shaft securely in place.

Screw in the rear rubber hook at the post placed at the rear of the fuselage. Hook on the rubber in six strips of 26" each and fasten to the propeller shaft.

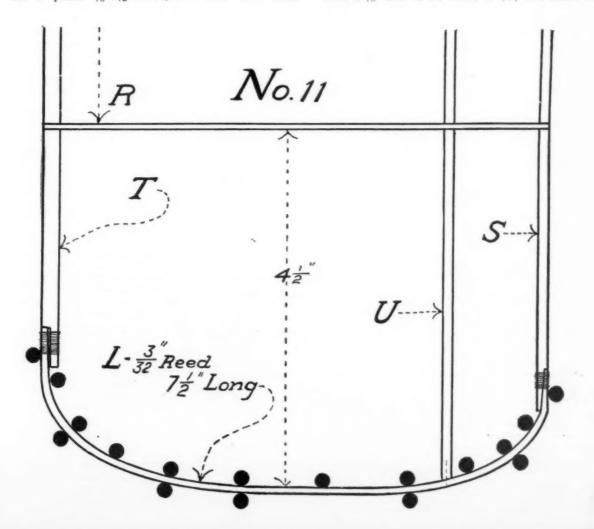
Cut a piece of metal, as per drawing (C), 34-gauge aluminum, and curve it slightly, nailing

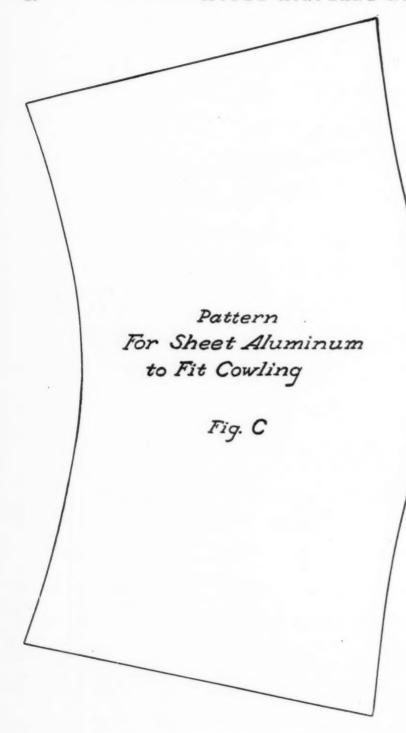
the straight edges on the top longerons  $\Lambda$  right up flush to the nose. Ten small corks cemented to the metal will represent the exhaust pipes. These are to be painted black.

Drill a 1/8" hole in the center of (F) and insert the

#### Propeller

THERE is a post at the rear of the tail between A and B. This is \(\frac{1}{4}''x\frac{1}{4}''x\frac{1}{2}''\) and is nailed in place to hold the rear rubber hook. On the nose there are 3 pieces \(\frac{1}{8}''x\frac{1}{2}''x^2\) \(\frac{1}{16''}\). Nail them flush





Those who wish to purchase parts for the construction of models will be furnished with the name and address of the company which stocks these parts, upon request for this information from the reader. Address the Editor, Model Airplane News, Macfadden Publications, Inc., 1926 Broadway, New York City.

reed (I), nailing it on the rudder post (J) and around to the lower longerons (B).

Add the elevator brace (Q) at the place indicated on the fuselage. This piece is centered between the top longerons and nailed in fast. Add the pieces (K) by drilling 3/32" holes into the elevator brace (Q) and rudder (I) and cement these into place.

#### Windows and Roof

THE windows and roof are next. These are made up easily. Follow the drawings for the exact position and sizes. There is a piece (W) already bent. This is to be nailed to the small posts as indicated on drawing, 2\%" long and 3/16" square and 1\%'' long x\%'\%'\%'. These posts are glued into position. The trailing edge of the wing is fastened on the \%'' piece.

#### Wings

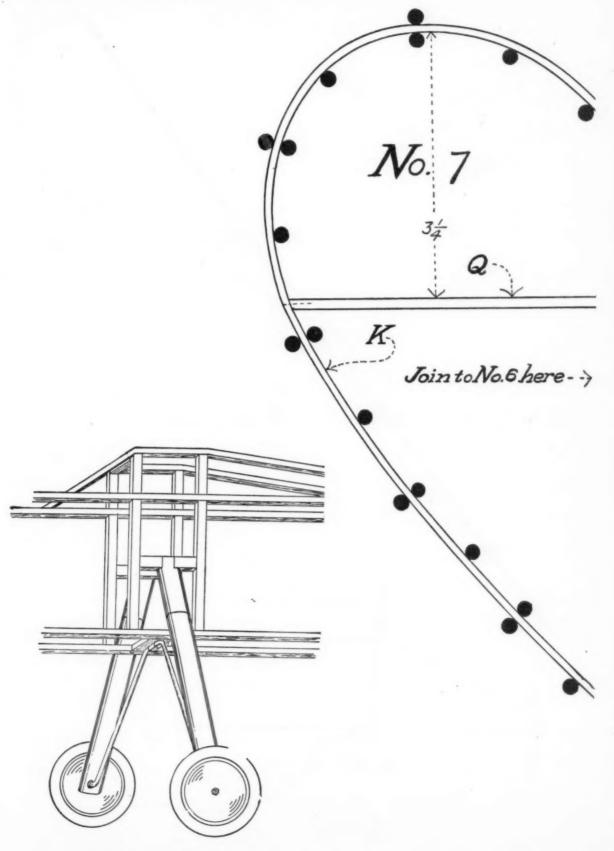
THE wing is very simple to construct. Pick up the spars (S) and (R), mark off the center of both (the drawing gives you the sizes of the spars) and place one of the 5/6" ribs exactly in the center. Cement and nail fast, and space the other 4 ribs 7" apart, leaving two spaces at the wing-tips, approximately 41/4". There is a center spar (U) 1/8"x1/8"x36" to add. This can be inserted through the front hole on the wing rib. This makes it quite rigid. Add the wing-tips (L), wiring them to the leading and trailing edges and nail to the center spar. Cover the wing with Japanese tissue, then, when covered, continue to cover all surfaces with the same material, spraying on a light coating of bamboo varnish through a sprayer. If a sprayer is not obtainable, use the family insect sprayer. This will give you a clean, neat job.

The wing is fastened to the fuselage at the parts indicated on the drawing by drilling small holes through the spars and screwing the wing to the parts.

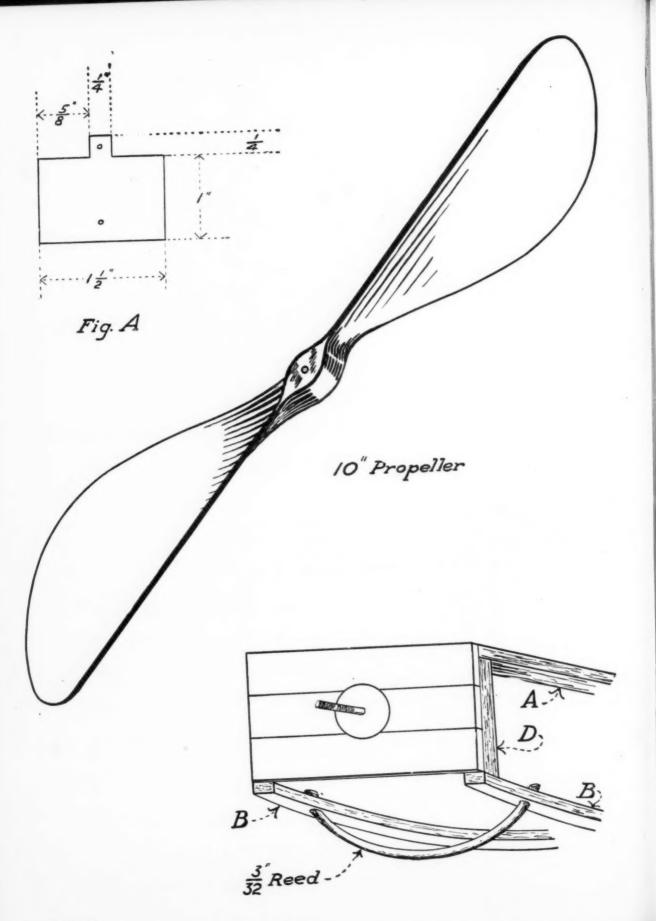
The model is now ready to fly. You can wire the landing-gear, if it is not rigid enough; for, unless you do, constant use of the model will tend to loosen it and then you will have to wire it.

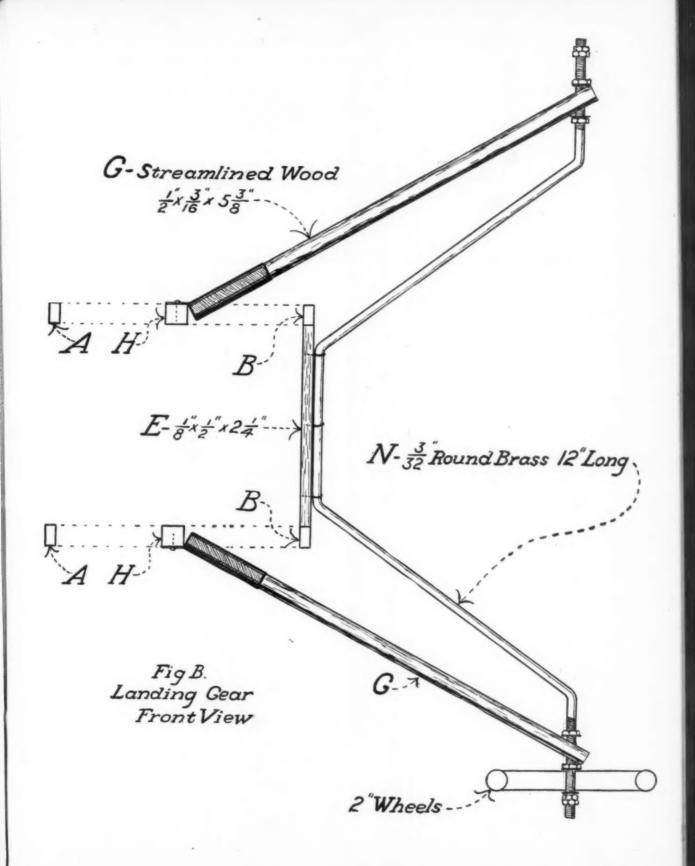
If you work carefully and patiently, you will have in the Bernard monoplane a model which you can exhibit with pride anywhere.

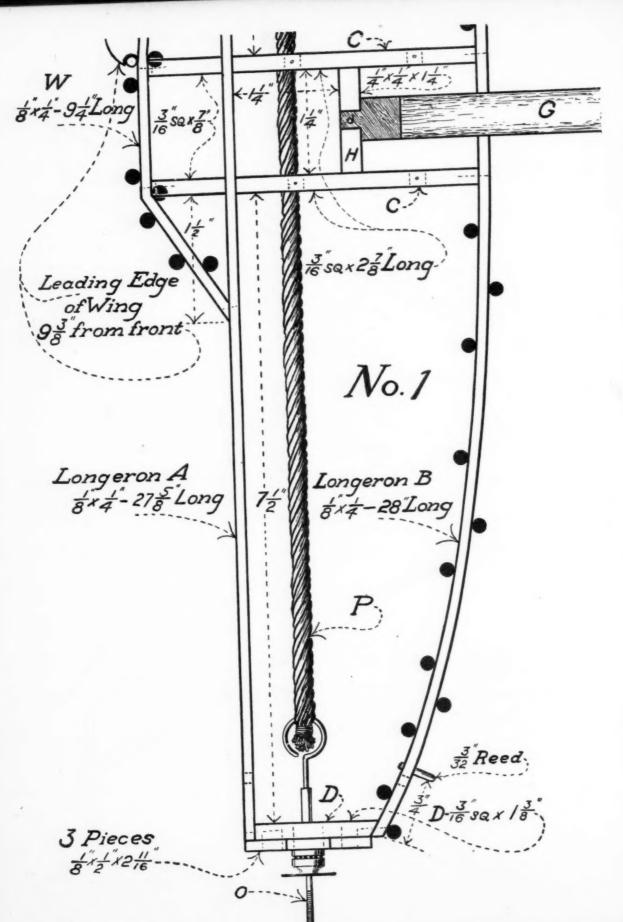


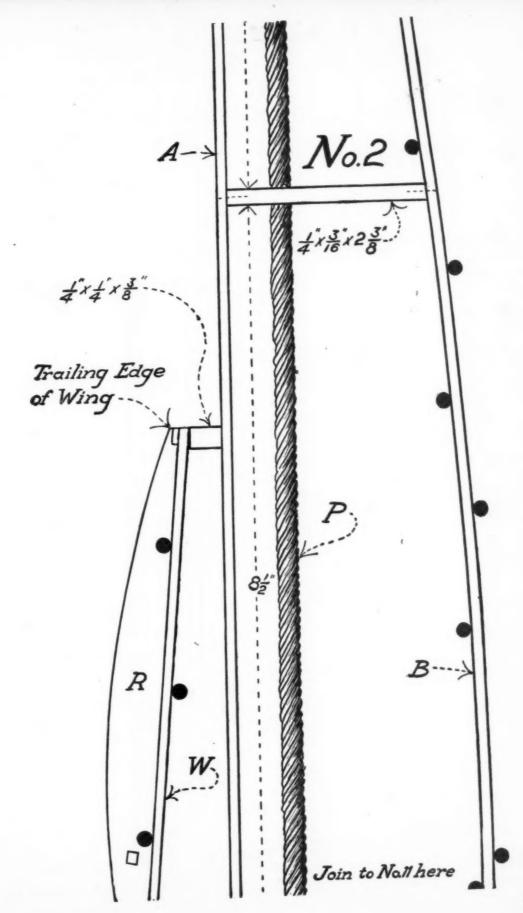


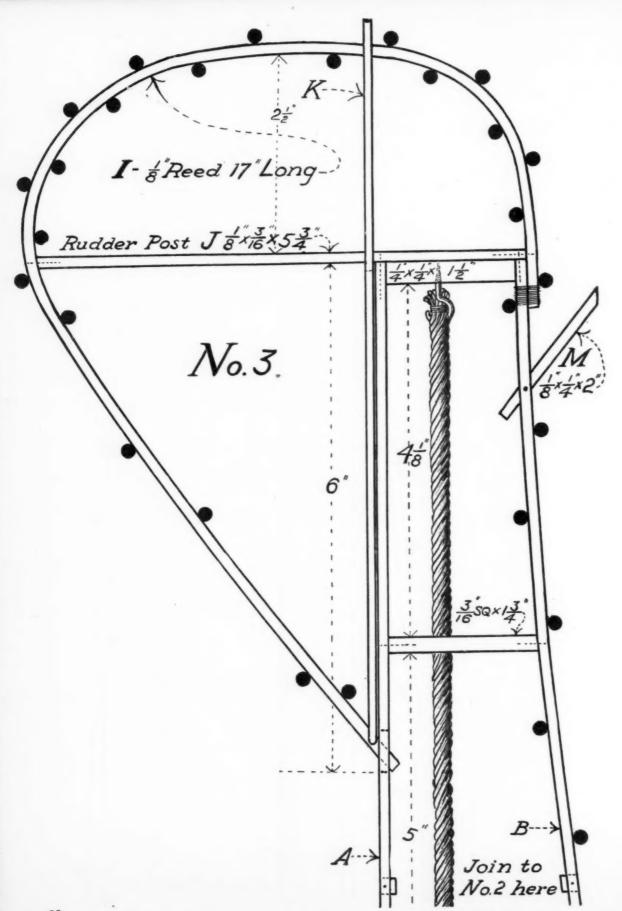
Landing Gear - Side View.





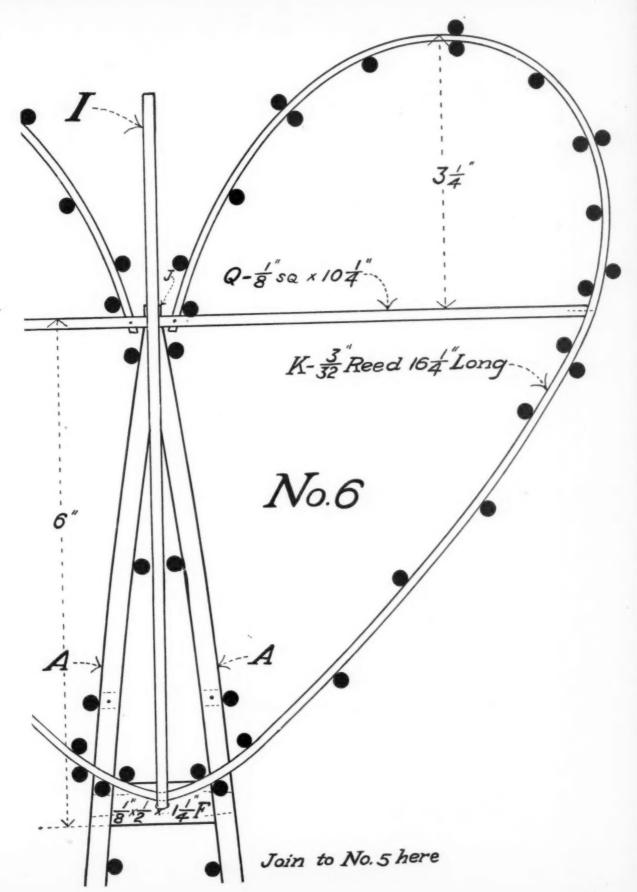


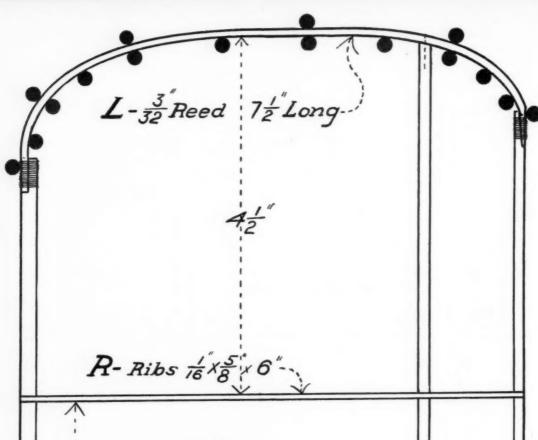




Leading Edge of Wing-3"x3"x23" No.4 93" 7/6" A-->  $A \rightarrow$ 8×8×216 3 Pieces 8x2x216

	3" 15" 16 SQ x 18"
	3
Trailing Edge of Wing	No.5
A>	A>
	Join to No.4 here





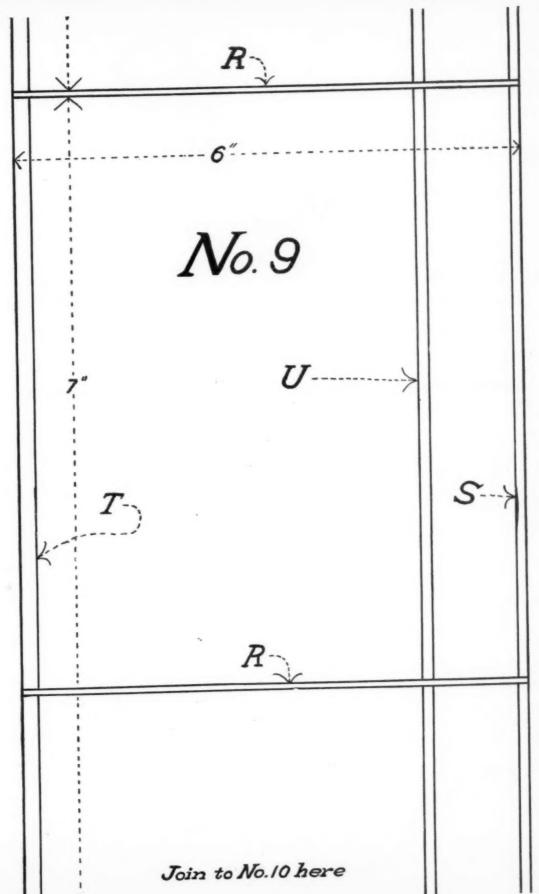
# No. 8 Wing

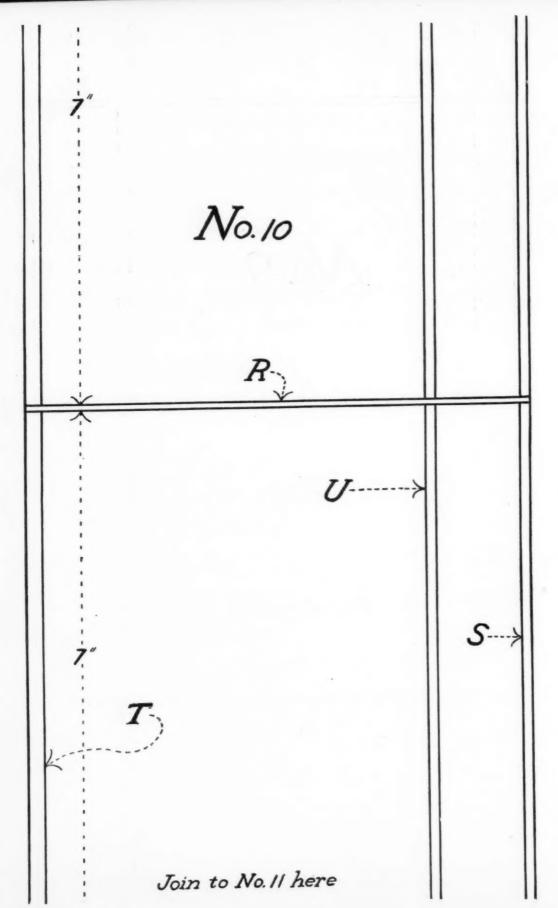
S-Leading Edge Reed 35 Long

T- Trailing Edge 8 x 16 x 34"

U- 8x8x 36

Join to No9here







A Keen Eye,
a Steady Nerve and
a Sturdy Body,
the Result of
Clean Living,
Are Demanded of
The Men Who
Take the Air

# You Must Be Fit To Fly

FEW years ago it
was the ambition
of every young
boy to become a
railroad engineer

By PILOT F. RECHNNITZER

and drive the 18-hour limited from New York to Chicago. Every afternoon he and his pals would take their places on the grassy bank of the railroad cut and wave to their hero as he went roaring by. In those days the fast express was the last word in speed.

The boy of today also has his hero, who goes flashing by on his way to some distant city, the pilot on the air mail. This is his goal—to hold the stick of a speedy mail plane, tearing through the sky at a speed of 145 miles an hour or so.

The boy of yesterday was content to watch the train go by and then dream of being the hand at the throttle. Not so with the boy of today. He wants to know what makes it go and why. It is very surprising to note the working knowledge that boys have of aircraft today, even the youngster of ten can tell the difference between the biplane and monoplane. A monoplane passing over will always bring cries of "Lindbergh, Lindbergh," and Lindbergh, by the way, is the hero of every boy, young or old. They all wish to become flyers.

The first thing the United States Department of Commerce, which issues all pilots' licenses, requires of every man who is thinking of taking up flying, is a report from a doctor appointed by them as to his physical fitness. And I might say here that the test is a very severe one.

With this thought always in mind "I must be physi-

cally fit," every boy, no matter how young, can start preparing himself to reach his goal, by taking care of his body. The

powers that be will pass a person with some bodily defects of not too serious a nature, but they will not pass any defects of an organic nature. The thing they lay the most stress on is eyesight. So we will start with the eyes.

If you have any serious defect in your eyes at the present time which your doctor says cannot be corrected, forget flying as far as the piloting end of it goes. I don't mean by this to give up aviation as a career altogether, for there are plenty of jobs in aviation for which the boy can prepare himself. In fact, there are about twenty jobs on the ground for every one in the air, such as mechanic, rigger, field manager, wireless operator, etc. So don't give up, if you are really in earnest. If your eyes are good, take the best possible care of them. Don't abuse them by reading in bed, by poor light, or by a strong light shining in your eyes. The light should fall over the left shoulder and all reading matter should be held at least thirteen inches from the eyes to prevent eye strain.

Now the body. Use plenty of water, both inside and out. Drink at least a quart of water a day and by all means do not wait till Saturday night for that bath. Bathe often.

Eat plenty of good fresh vegetables, don't be afraid of the spinach mother wants (Continued on page 47)

# The FLYING BLACK SHEEP

Only the gasping snore of one of the men sounded in the room. Cautiously Tommy slipped one of the guns into his shirt

O<sup>N</sup> Tommy's sixteenth birthday cattlemen and sheepmen on Saddle Mountain are involved in a feud rising out of cattle poisonings and sheep killings.

Tommy Carew and Tad Wickers, lifelong friends, are air-minded and plan to own a plane together some day. Tad's father accuses Tommy's of poisoning his cattle. Later Mr. Carew is shot from ambush and believes Wickers did it. When Wickers is killed soon after that, Mr. Carew is arrested and jailed for the murder.

Tommy admits seeing his father near the scene of the murder. His truthfulness in this case earns him the nickname of "Baa-baa". In his father's absence Tommy shoulders the family burdens. A plane crashes near-by and the pilot gives the ship to Tommy who reconstructs it and with the help of his brother and sister clears space for a flying field.

Tommy learns to fly and returns from flying school to find his plane going up in smoke. He sees Tad Wickers fleeing from the wreck. With the money sent by an anonymous friend Tommy purchases another plane and for a time gets work transporting supplies. But the feud between cattlemen and sheepmen again breaks out and

he loses his customers.

A sinister black plane has been scattering bombs on the sheep. The valley people believe Tommy responsible. He is seized and tied, being left on the spot over which the mysterious bombing plane hovers.



HE bomb from the black plane struck the ground only a few feet away. Tommy saw it bound and roll toward him. He closed his eyes and tried to think of a prayer. His tongue, muffled by the handkerchief, could form only two words:

"Save Dad!"

But something had gone wrong with the bomb. When Tommy had tensed every nerve against the blast and was trying not to think, he felt a knife thrust under the rope that bound his wrists. The strands parted and a rough hand rolled him over on his face.

With his hands free, Tommy twisted and attempted to spring up. But the rope around his ankles tripped him and he fell. While he struggled with the knots, he heard some one running away in the darkness. He could see the shadowy figure, but could not make out who it was.



Tommy Follows the Killer's Black Plane into the Hidden Valley, Meets with Adventure and Discovers That-

> BY LAURENCE DONOVAN

It was probably one of the sheepmen on guard, he thought, who had saved him, but who had run to escape the bomb. Tommy could not now see where the bom lay and, when he got his feet free, he did not stop to

look. Jumping up, he ran toward the trail. The bomb that had rolled so near, that had brought death within a few inches of his head, had failed to explode, but the two other bombs shook the night while Tommy was climbing the steep hill to the trail.

Fearing that Spuggs and the two other men who had left him tied to a stake to be bombed to death might be on the trail, Tommy slipped into the bush to one side and crept stealthily along. When he was sure he had passed the poison spring at the foot of the canyon, he started running.

Without pausing to awaken his mother, Tommy got

to his plane. Adjusting the spark and throttle. whirled the propeller. the second attempt motor caught. Climbing hastily into the cockpit, Tommy let the motor idle for only a minute before he

started revving it up for the take-off.

Some one called out when the roar of the motor was increasing and three or four men ran out onto the field. Tommy could see them in the moonlight. A yell of warning burst from his throat and he gave the Golconda the gun, hopping the plane from the holding blocks and taxying down the field directly upon the men, whom he judged to be sheepmen.

The men scattered from the pathway of the thundering prop and Tommy pulled the stick. Looking at his gas gauge, he figured he would have enough fuel for what he had in mind. Instead of heading for Astoria, he climbed to 8,000 feet, cleared the mountain between the humps and headed for the city flying field.

Tommy was not sure what the sheepmen might do, but he remembered that George Struthers was on his

way to Astoria and might have telephoned ahead to the sheriff. Tommy felt that he could not afford to become a prisoner now. There was too much at stake.

Early the next morning, at the city flying field, Tommy found Murphy. He told him the whole story.

His flying friend was warmly sympathetic.

"I think we can manage it," he told Tommy. "Leave it to me. There are some spare machine-guns over at the National Guard Reserve Corps' field. Never mind payin' me now-you need the money and, anyway, I ain't supposed to know anything about it."

Whatever method Murphy employed, it was a success. Late that same evening in a secluded corner of the field,

a "Tommy" machine-gun was bolted to the rim of the Golconda's cockpit. There was no chance to synchronize the gun and the motor so that bullets could be fired through the whirling propeller. The gun was there-

fore placed so as to send its ripping stream out to the right hand side of the prop.

"Sure looks like war," commented Mu.
"Now Murdon't you forget. If you've got to fight it out with that black devil in the air, come down on his tail to the left of him or come up from underneath on the same side. And don't shoot until you've got him dead in the ring-sights."

With half a dozen belts of cartridges for "Tommy" the and pretty sure he would know how to handle the gun, Tommy thought of the other angle of his scheme. Probably after the third night's bombing, the sheepmen would clear the Splitneck Canyon meadows. He wanted to catch the black plane in the act of bombing

the sheep. He felt that only by riddling the bomber with machine-gun fire and sending him down into the meadows could he clear himself of the suspicion of being a party to the outrages.

Murphy suggested the plan by which a note could be

put in the hands of the sheepmen. Half a dozen letters were written by Tommy. Each contained the same message. This read:

To the Sheep Owners:

Clear all sheep out of Splitneck Canyon. Get all the gunny-sacks that can be found. Stuff them with hay or grass. Tomorrow afternoon scatter them around in one of the canyon meadows. It might be better to put a few sheep among them, but from an airplane, sheep and gunny-sacks look alike. It is still bright moonlight and if the bombers are watching the meadows with the plane, they will think more sheep have been run in.

Stay out of the canyon tomorrow night. Don't risk any one's life. I can't tell you what will happen, but if the bomber comes again tomorrow night, he is going to run into something he is not expecting.

Whatever happens, unless I can clear my own name and prove my Dad is innocent, I will not come back to Saddle Mountain. I am mailing a list of the amount due me for carrying supplies and I hope that all w ho 0 10 6 anything will pay it to my mother. Tommy Carew

The residents of Saddle Mountain saw the familiar lines of Tommy's Golconda plane high between the humps of the mountain. It volplaned until it was over the canyon, then Tommy banked sharply and seemed to hover a thousand feet above his home landingfield.

It had been part of Tommy's training to loop roll his planes.

But Tommy was level-headed and had never performed stunts for the benefit of his neighboring mountaineers. Today he set out to attract their attention and he succeeded.

Zooming to a height of about 2,000 feet, Tommy



"Aw, he'll be safe enough," growled one of the men. "That last rap pretty near finished 'im'



pushed the stick down hard, threw the elevators and dived for two or three hundred feet. In the midst of the dive he pulled the stick back, gave the motor the full gun and zoomed up until he was at the top of a loop.

In this position he kicked the rudder straight, shooting ahead with his plane upside down. He got the attention of every pair of eyes on Saddle Mountain. Then he half rolled and dived again until he was only about 200 hundred feet above his landing-field.

McLaughlin was the first to see a white paper, attached to a weight and supported by a miniature parachute fashioned from a handkerchief, fluttering down. Then another and still another started on the trip to earth, until six of them were in the air. The plane by this time was nearing the top of the tall fir trees.

The motor roared a farewell, the Golconda pointed its nose toward the mountain and Tommy was gone. McLaughlin read Tommy's note.

"Sounds crazy," was his first comment. "Puttingunny-sacks out to look like sheep."

He scratched his head. By chance he happened to glance out across the valley. Below him in a meadow a flock of sheep was feeding. The animals were possibly 500 feet below the level of the spot where he stood.

"By jiggers!" he exclaimed. "Danged if there mightn't be somethin' to what Tommy says, Have a look at them there sheep down there."

The others agreed that there wasn't much difference between sheep and gunny-sacks at that distance.

"Maybe Tommy's right an' maybe he ain't," Mc-Laughlin finally said. "But I guess it's up to us to take a chance and do our part. Let's see. Who's got the most gunny-sacks?"

IN the meantime, Tommy flew straight for a wild meadow landing he had discovered back of Saddle Mountain. It lay twenty miles or more from the mountain itself. When he had landed and blocked his wheels for a quick take-off, he tried out the "Tommy" gun.

Getting a cedar tree lined in the sights he pulled the trigger stick and let go a burst of lead. He smiled grimly when he had examined the tree and found that the ripping lead had shredded the tree almost to the heart.

Putting a fresh belt of cartridges in the gun, Tommy went over his motor, then slipped into the cockpit to begin his long wait for nightfall. Everything depended now on the sheepmen and the gunny-sacks.

When the first shadows of night fell across Splitneck

Canyon, a score of men might have been seen filing into the meadows. Two hours before the full moon would rise, but late enough to be hidden from any but close observation, 200 inanimate "sheep" lay dotting the first meadow.

Among these "sheep," which were the stuffed gunny-sacks advised by Tommy, a score of old and less valuable ewes nibbled at the grass. These were living sheep selected to be sacrificed to make the flock appear real

to any one flying overhead.

McLaughlin, leader of the sheepmen and one other man remained on watch. They selected a safe place on the trail above the meadow. When the ruddy rim of the full red moon appeared in the notch of the eastern hills, none but those who had baited the trap would have known that stuffed sacks instead of sheep were in the meadow.

About an hour after the moon had risen, McLaughlin spoke in a low tone to his companion. He had heard a familiar throbbing on the air, as yet more of a vibration than sound.

"Plane's comin'," said McLaughlin. "It'll be either

Tommy or that black skunk of a bomber."

"Then you don't 'low as how Tommy's been in on the dirty killin' stuff, huh?"

"Well," said McLaughlin slowly. "Probably tonight'll tell the truth. Anyway, the kid's got the guts whichever way he's playin' the game. Right now I'm handin'

him the benefit o' the doubt."

Tommy, who had been trying to snatch a wink of sleep in the cockpit of the Golconda as he lay in waiting in the meadow twenty miles behind Saddle Mountain, was wide awake now and impatiently watching the slowly rising moon.

His nerves were taut and his imagination caught at every night sound, his ears straining for the distant humming of a plane's motor. He was aware that he could hardly get the tune of a flying prop so far away, but to the swift speed of the air

twenty miles is but a few minutes of flying and, for all Tommy knew, the black plane might be up scouting

around.

But only the familiar noises of the mountain night were to be heard. A meadow cricket chirped. An old elk buck called to his small family of cows and calves. Something had disturbed him. The moon sailed on up into a clear night sky.

Tommy's hand reached out and caressed the mechanism of the machine gun at the rim of his cockpit. A dozen times he tested the trigger and the freedom of the belt with its mouthful of deadly steel and lead. Of course, Tommy had never killed a man. Nor had he

ever seen a man killed. The closest he had come to that was the day he had stumbled upon the limp body and the blood-washed white face of old man Wickers. He still recalled that with a shudder.

But this was different. Tommy pictured the devils in the black plane blowing helpless sheep to bits, slaying defenseless shepherds—all for some mysterious reason

that could not be explained.

Tommy set his teeth. Well, he was going to find out that reason. He was going to ask a question and he was prepared to ask it with a stream of hot lead. They had invited it, those fellows. They had been the first to send bullets streaming into his plane. Undoubtedly the black plane was better armed than the Golconda. It would be a fifty-fifty fight.

While he waited, tensed and ready, Tommy tried to recall all that he had been told and all that he had read of war in the air. Probably the black plane's pilot knew all about it. Perhaps he had been in the War. In that case Tommy's Golconda with his youthful inexperienced hand on the stick would be easy prey for the black plane.

Time to take off. Tommy's tight nerves relaxed somewhat with the necessity for action. He got out and wound up the prop, being careful to set his blocks well. The meadow afforded a rather bumpy runway and he would have to have every inch of advantage he could get.

With the prop spinning slowly in the warm-up, Tommy gave a motor a full ten minutes before he began



opening the throttle, increasing the propeller's revolutions and heating for the start. Finally, with wideopen throttle, he revved the motor to full speed, hopped his landing wheels off the block and went bumping over the meadow's surface.

Despite the jerky going, Tommy held the stick forward until he felt the tail-skid lift with the pull of the motor. Then he pulled the stick slowly back and the wheels lifted. He was clear. One thought stood out.

He had read and been told that when a flyer lay in wait for an enemy, he always got high above him ready to dive. In that way he had the advantage of greater speed and easier control of his (Continued on page 40)



HE Macfadden Aviation Advisory Board has been kept busy answering the steady flow of letters that have been pouring in during this month. We like them though, inasmuch as they contain some of most interesting questions the Board has been asked to date. Keep on firing questions, boys, because the Board is here to serve you. Look upon it as your Board and make use of it.

Here are a few questions and answers for this month:

Dear Sirs:

I have just received my July edition of the Model Airplane News and have started to construct the Ford tri-

motor model which you gave in the July issue.

I wonder if you could help me to obtain a device which I could place in the plane to operate the controls.

Very truly yours, E. C. Maheux, 36 Mall St., Roxbury, Mass.

Answer:

We are sorry to have to inform you that there is no such device on the market today. We suggest that you make a small control-stick and rudder-bar, wire them to the elevators and rudder and set these units as you wish before the plane takes off. This you will find to be a simple device. It can be easily made with several small pieces of dowel. You can make these devices work along the same principles as the controls of a real airplane.

Gentlemen:

I wish you would tell me where I could get plans for pontoons for a Tri-motor Ford Monoplane model, Yours truly.

GLENN KELLER, Grand Rapids, Mich.

Answer:

We are sorry to inform you that there are no plans for pontoons for sale as far as we know, but such a pair of pontoons can easily be made. The dimensions should be 12" long, 2" wide and 1¼" deep. We suggest that you sketch a frame of this size on paper before starting

IN this department each month the Macfadden Aviation Advisory Board will endeavor to answer all questions concerning model building and aviation in general. Address all questions to

The

Macfadden Aviation Advisory Board,
MODEL AIRPLANE NEWS,
1926 Broadway,
New York City.

Enclose with your letter a selfaddressed and stamped envelop to facilitate an answer, as space is limited and all letters can not be answered in these pages. actual construction. The type of wood for this construction should be 1" square white pine.

Gentlemen:

I am getting a Curtiss-Hawk and would appreciate knowing how many times I should wind the prop for a good flight.

Your model aviator, WHITNEY SNOW, 9026 197th St., Hollis, Long Island, N. Y.

Answer:

We could give no set number of times which you should wind your propeller unless we could actually handle the model itself. We suggest that you wind the propeller until you feel the strain on the rubber is sufficient. When the

rubber becomes so taut that it takes a slight force on the part of your hand to continue winding, we suggest that you stop as your rubber may break with further winding.

Dear Sirs:

I would like to know if a course in model-airplane construction can be had somewhere and, also, how long the magazine Model Airplane News has been published. The July issue is the first I've ever seen.

Respectfully yours,

JOSEPH RADCLIFFE, 1103 W. King St., York, Pa.

Answer:

Model Airplane News will contain within a short time a complete course on model-airplane construction. We know of no other such course published.

The July issue of Model Airplane News was the first issue published by Macfadden Publications.

Gentlemen:

I am building a model of a Lockheed-Vega plane and I have considerable trouble with my landinggear. Every time I fly it, the landing-gear washes out when the plane lands. Please tell me what to do.

Yours in a "nose dive", Lewis Swain, 1306 N. Stanton, El Paso, Texas. (Continued on page 48)

#### The Flying Black Sheep

(Continued from page 38)

plane in a pinch. Over and over, he repeated Murphy's advice: "Get down on his tail with him on the right-hand side. Don't pull the trigger until the fuselage of his plane is full in the gun-sights."

ToR fifteen minutes Tommy held the control-stick at a slight angle. Five thousand, then 10,000 showed on his altimeter. That would be high enough, he judged. The black plane, if it came from its lair tonight, would fly low as usual. That was necessary to pick out the meadows in the moonlight.

Four or five thousand feet below the Golconda, the humps of Saddle Mountain showed their bulk in the moonlight. Tommy cut off his wing lights. Unless he were directly between the other plane and the moon, the Golconda would be invisible from below.

When he figured he was somewhere near Splitrock Canyon, Tommy began idling his motor to listen. But no sound came. If the black plane was in the air, he could not hear it. Twice he circled between the humps. Near the end of the second swing his nerves jumped.

In the flat blackness far below a light flared up. Then another and another one until the four landing beacons of the hidden valley were burning. Either the black plane was already in the air or it was taking

Figuring his location from the lights of the hidden valley, Tommy started on a slow glide to cross Splitneck Canyon. His eyes searched the void below the Golconda. Suddenly his hand tightened on the stick. He flattened the Golconda to a level keel.

A ball of fire had rolled. It spread in a sheet of flame. Tommy cut his engine momentarily. A dull booming came up to him. A second flare on the ground and another explosion. Then Tommy heard the throbbing of the black plane motor. As yet it was hidden from him, but, with the motor still idled, he pushed the stick forward and volplaned toward the sound.

As the Golconda went down, the throbbing of the black plane moved across under Tommy and he judged that the plane was heading back for the valley. He kicked his rudders and turned in a spiral that he figured would bring him in contact with the bombers before they had a chance to reach their landing-field.

To eyes in the air, the moonlight is tricky. Tommy had come down three or four thousand feet before he saw anything. When the black plane came into view, it was a flashing monster with the moonlight shining on its top wing surface so close to the nose of the Golconda that Tommy caught his breath. It seemed as if he would dive squarely into it.

Tommy pulled the stick back, then he pushed it forward, kicked right rudder and half rolled over. The impulse to seize the machine-gun trigger and take a chance on sending a burst into the bombers' top wing was strong, but Tommy gritted his teeth and waited. Never had Tommy executed an outside loop. With his eyes fixed on the gliding wings underneath, his hand on the stick edging farther and farther forward, Tommy lifted the tail of the Golconda and went over.

O NLY an instinctive twist of the ailerons and rudders turned the Golconda in a half-roll and prevented Tommy from reaching the under side of the black plane, with

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himself flying upside down. He had his motor roaring at full speed and through all of that dizzy twisting turn, Tommy's eyes never once left the black plane.

It requires half a minute to describe that diving roll. Yet it was accomplished in a flashing half-second. And there was the narrow fuselage of the bombers' plane between Tommy and the moonlight, directly in the ring of the machine-

Tommy tripped the trigger ring. A ripping red stab tore out and up at the shadow obscuring the moon. A stream of whistling lead cut a neat line along the bottom of the black plane's fuselage. In the plane, one man in the rear cockpit suddenly stood up, then toppled over, his arm hanging over the side.

One burst that took half of the belt before Tommy's clenched fingers released the trigger and then the greater speed of the black plane carried it out of the sights. Tommy's conjecture had been correct. The pilot of the bombing plane knew his War stuff. He had pulled his stick so sharply that the black plane almost stalled as it looped up and backward over the Golconda.

When the black plane went into the loop, Tommy's breath almost stopped. Fighting maneuvers were beyond his limited experience in the air. But he remembered that the black plane was faster than his Golconda. Because he did not know exactly what he should do, Tommy through sheer luck accomplished about the only thing left to him. He pushed his stick and dived.

The swift rush downward, while the bombers' plane was rolling over and coming around, saved Tommy from being in a direct line with the machine-gun on the black plane's nose. But the other pilot streaked down after the Golconda and orange slashes cut through his whirring prop. The line of fire was luckily too high to get the Golconda's fuselage.

Tommy saw a ragged hole widen in his right top wing. A stray bit of lead seared his right cheek and another split bullet crashed the glass of the gas gauge at the top of the instrument-board. The feedline had been nipped, but Tommy did not know that for some time.

T was the black plane's own diving speed that saved Tommy from being washed out right then. The bombers' pilot, thinking he had hit the Golconda in a vital spot, zoomed off its tail to prevent a collision that would have shattered his propeller. The black plane curved upward, but not until its rush had carried it beyond the nose of the Golconda.

Tommy, not so much frightened as he was puzzled over what he should do next, straightened out. He could see that they were barely 500 feet above the rim of Splitneck Canyon and another forced dive would mean a crash.

Tommy did not know just how he could get the bombers in range of his gun again. Then to his amazement the black nose of the other plane came poking dead into the ring-sights. If Tommy had delayed for a split second, the plane would not have been there, but instinctively he clutched the trigger-ring.

The stream of lead licked upward at exactly the right angle and Tommy could hear the shattering smash of the black plare's propeller above the thunder of his own motor. Splinters showered his wings and flew into his cockpit. Then the black plane slewed off to one side and was gliding swiftly toward the ground.

Tommy's elation was short-lived. He had pulled the stick and climbed a couple hundred feet, peering over and watching the bombers' plane streak down. He saw that they had swung almost over the hidden valley with the four twinkling beacons that lighted the bombers' landing-field within easy volplaning distance. The

black plane was out of his line of vision, but apparently it would land safely.

Tommy had none of the instincts of a killer. He had set out to smash the black plane. Now that its propeller had been shot away, he did not regret that it was making a safe landing in the hidden valley. In fact, he was rather glad that he had not caused it to crash.

He kicked right rudder, started to zoom and bank to turn for his home landing-field.

"Sput-sput-sput-sput!"

The Golconda's motor coughed and died. A few drops spattered in Tommy's face from overhead. He looked up and smelled gas. The looked up and smelled gas. The nipped fuel line had failed to carry enough fuel to the motor.

Dead-sticked! Tommy's heart sank.

He was too far away to chance volplaning toward his home field. He was only a few hundred feet above the rim of the hill surrounding the bombers' valley.

There was nothing for it but to go down. The four beacons of the mystery valley gleamed up at Tom-

my. One winked out.

Tommy pushed the stick, got the feel of the volplaning angle and sighted the Golconda nose for a spot between the three remaining lights. Another light went out. It gave Tommy a hopeless feeling. He had no way of determining whether the remaining lights were at one end or at the side of the bombers' landingfield and, if at the end, which end.

RIMLY he clutched the stick and waited. One guess was as good as another. Whether he landed safely or crashed, he was throwing himself into hands of the sheep bombers. Tommy wished for the automatic pistol that had been taken from him by the sheepmen. He regretted too late that he had not purchased another, but, in the excitement of equipping his plane with a machine gun, he had forgotten that he might require the smaller weapon.

The Golconda was only a couple hundred feet up when the remaining lights vanished. Tommy could only keep his angles of descent as gradual as possible and wait. His landing wheels bumped too quickly, but Tommy escaped nosing over and the Gol-

conda dragged to a stop.

The landing had been soundless, but the brilliant moonlight flooded the field. The dark shape of the black plane was off to one side. From that direction half a dozen men rushed toward the Golconda. Tommy's ma-chine-gun was on the opposite side, so that he could not fire at them.

Rather than be dragged from the plane, Tommy climbed over the edge of the cockpit. But the bombers' gang was in a savage humor. A squat, swarthy man leaped at Tommy swinging his fist. His knuckles caught Tommy on the chin and the figures of the other men wavered uncertainly before Tommy's eyes.

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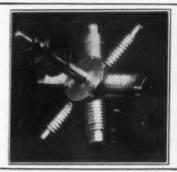
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His senses were blurred and before he could evade the blow, the man had struck him again. Then man had struck him again. half a dozen hands seized him and he was held in a firm grip and

carried across the field.

A moment later he was on a hard floor in a dark room and thongs were being twisted around his arms and legs. Some one kicked him sharply legs. Some one kicked him in the ribs and he rolled over, his come object. The head striking some object. The room swam around and Tommy's mind became a blank.

WHEN he recovered his senses, Tommy could hear the gangsters talking in an adjoining room. One of the men spoke with a foreign accent.

"Disa boy, he's go for a ride," said the voice.

"Sure thing, Pattello," agreed an-

other of the men.

"You make for dam' sure he's no talk," advised the first voice. "Maybe so we give 'em the lesson-what for they think when he's drop from his 'plane, hey?"

"That's the ticket," said still another voice. "We'll wait till we get the cattle started outa the valley. I'll bet they're plenty sick of usin' that canyon. By the time we come back the herders an' cattlemen will have cleared outa that side o' the mountain an' we can bring in the machinery to work the mine.

Tommy tried to shake off the ache in his head long enough to under-

stand.

They were going to drop him from a plane, his own plane. To be sure, he had smashed the propeller on their plane. Tommy twisted his wrists against the binding rope. Surely they could not do anything as cruel as that-Drop him from his

plane.

Their words had hinted that it was to be done so that it could be seen by the people on Saddle Mountain. Cold sweat came out on Tommy's forehead and ran into his eyes. Why, his own brother and sister, perhaps his mother, too, would see him thrown from the plane.

His whole body writhed against the ropes. The gangsters had not made as good a job of tying him as had the sheepmen that other night. Tommy felt a knot slip loose. One arm was working free. A new hope sprang up. If he could get loose, at least he could make an attempt to escape. Even if they shot him, that would be better than the cruel death they had planned.

He worked harder at the ropes. What was that about getting the And cattle out? bringing

machinery for the mine?

It was all vague enough, but Tommy's mind went back to the cattle tracks in the tunnel under the Splitneck-Canyon ridge. He thought, too, of cattle that had strayed and been reported missing. The sheepmen had been blamed for that. That tunnel must run all the way through to this valley. He was quite sure of that. But what did they mean by a mine?

Tommy remembered that a long time before the cattlemen and the sheepmen had taken possession of Saddle Mountain, it was said gold had been found there. All of the mountaineers had at odd times prospected, but no one had ever found a mine or sufficient mineral of any kind to pay for the trouble of getting

But surely the cattle and a mine, alone, had not brought these gangsters to this valley. Tommy knew they were not the kind of men to

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go into the wilderness unless there was some very good reason. something deeper than that lay behind the mystery of their presence.

The men in the outside room had stopped talking. Tommy could hear them pulling off their boots and preparing to get into their bunks. He went to work on the ropes again.

Then the door opened and light streamed into the room where he lay. Tommy closed his eyes and remained quiet.

"Aw, he'll be safe enough," growled one of the men. "That last rap pretty near finished 'im."

The door closed. Tommy tugged his right hand free and worked swiftly to undo the other knots. He could not untie them, so he wiggled

out of the loops. Presently, except for a loud snore now and then, quiet descended over the gangsters' cabin. Tommy wondered if he could escape from the Creeping cautiously around, careful not to make a noise, he followed the walls. The solid sides of hewn logs met his hand all the way. There was no window or door to the room, except that which led into the larger room where the gangsters were sleeping.

Scarcely daring to breathe, Tommy

crawled to this door. The latch was on his side and he raised it noise-A half-inch at a time he lessly. moved the door until it was open. There was no light in the outer room. Tommy lay still and listened. One man was snoring. The regular breathing of other sleeping men could be heard.

Flattened on his stomach, Tommy squirmed across the floor. The outer door was swinging half open. A slanting streak of moonlight lay across the floor and revealed a wooden table near the middle of the room. Tommy got as far as the table. A sleeper stirred and talked in his A man near him half awakened and growled out an oath.

Tommy went cold inside, but the two men became quiet. Only the gasping snore sounded in the dimly lighted room. Tommy raised his head and on the table before him he saw a bottle and two automatic pis-He slipped one of the guns into his shirt.

Now if he could only reach the

outer door!

Another man spoke, then grunted, and Tommy heard him moving as though he were climbing from his Feet first Tommy slid back toward the door of the inner room. The man was still moving. Tommy got inside and closed the door. He heard the awakening man say something and he judged he was pulling on his boots.

Rolling across the floor, Tommy first slipped his legs back into the loops of rope, then his left arm and then his right one, knotting the rope at his wrist with his teeth. A light was struck in the outer room. Another man was awakening. He heard the pair talking in low tones. Finally one said, "Come on, Joe. Let's get the steers rounded up close to the trail before daylight."

The two men went out. Another man awakened, called after them and apparently went back to sleep. But the lantern light continued to shine through the crack under the door. Tommy's chance to get out of the

cabin unseen was gone.

WEARIED with the irksome waiting, Tommy must have slept. When he opened his eyes, daylight was streaming through chinks between the logs. Tommy lay close to the wall. Outside he heard men shouting and he peered through the crack.

Two hundred or more steers were milling around. Some of them came close to the cabin and Tommy saw the Star-Z and H-X brands. former brand was Nesbit's and the H-X was his Dad's. The men outside were apparently preparing to make a drive. Tommy wondered how they would get out of the valley. Certainly they could not return through the tunnel to Splitneck Canyon.

Yes, there must be another pass. The cattle were being herded toward the far side of the valley. Then Tommy saw two men come toward the cabin. They passed from view, but a moment later they reappeared. They were pushing the Golconda plane between them. They moved it to one end of the field and turned it with the nose pointed down the runway.

One of the men climbed in. The other swung the prop. For a few minutes the motor was idled, then shut off. The two men got out and came toward the cabin. Tommy almost forgot that he was supposed to be tied. Then he heard another man in the outer room and he rolled away from the wall and lay still.

The door was opened and three men stood there. All three were heavily bearded, but it was evident that the beards had been permitted to grow only since their coming to the valley.

"Bring'im out, Jake," snapped one of the men. "Let's get goin' and get it over with. An' shut off his yap while you're about it."

One of the men came over and bent down. He looked at Tommy for an instant, then he turned and poured something from a little bottle onto a cloth.

"What are you-"

Tommy started to speak. The wet cloth was clamped over his face. It had a sweet smell that turned Tommy sick. He wanted to tear his right arm loose and strike the cloth away, but he thought of the gun inside his shirt and steeled himself against moving. He held his breath as long as possible, but was forced to gasp.

Perhaps the trick of holding his breath prevented Tommy from getting as much of the chloroform as was intended. But he inhaled enough to cause him to sink into half consciousness. The man removed the cloth, thinking Tommy was completely unconscious.

With a breath of fresh air, Tommy revived quickly, but he kept his eyes shut, holding his arms close to his side to prevent the loosened loops of rope from slipping. Two of the men picked him up and Tommy feigned limpness as they carried him from the cabin, but he kept his right hand close over the gun in his shirt.

TOMMY wondered why the men had not missed the gun. Then he remembered that they had gone out separately to drive the cattle. Perhaps the gun had been forgotten or it was believed that one of the first men to leave the cabin had taken it.

Tommy hoped that only two of the men would go with him in the plane. The second-place cockpit, in which he used to carry supplies, was only large enough to carry two persons comfortably. Tommy had had the partition between the front and rear cockpits removed for convenience in handling supplies. So, when he was laid on the floor of the fuselage, one of the men was enabled to sit on the extra seat near the pilot.

The man remaining on the ground when the motor had been started and was being warmed up, was the man with the foreign accent.

"Make him a queeck job," he told the others. "You coom back, stay dis place. Look for see nobody coom. I'll make for go with them cattle. Coom back maybe two, t'ree days. You watch out for cabin."

So the two men who were taking Tommy for a ride were to be left behind as guards. Tommy's fingers itched to feel the gun in his shirt, but the time for action had not yet come.

The motor roared as the prop was revved up.

"Let 'er go!" called the pilot.

Tommy could feel the plane bump along the ground and lift. The man between him and the pilot laughed harshly above the roar of the motor.

"Them mountain hicks is goin' t' get an eyeful," he shouted to the man whom they had left on the field. His voice had a cruel, exultant note in it.

COLD chills ran along Tommy's spine. What if he could not get that gun out in time? Suppose it were empty?

He had had no chance to examine the automatic. He had to take a chance that it was loaded. He tried desperately to control his nerves and appear to be still under the influence of the chloroform. But his muscles twitched under the loose loops of rope. He was afraid the man chosen to drop him from the sky would notice. But apparently a murder more or less did not affect the gangster greatly. He was shouting into the pilot's ear and laughing loudly.

Permitting one eye-lid to flutter, Tommy could see the back of the pilot. That he was a veteran on the stick was evident. Tommy wondered if he were the same pilot with whom he had clashed on the previous night? In the face of his desperate plight, Tommy could not keep from feeling exultant over that job.

At least he had put the black plane out of business. But of course, if they succeeded in throwing him out, they would have the Golconda. He wondered if that happened, whether McLaughlin and the other sheepmen would not be more convinced than ever that he had been one of the bombers.

No; not if his body came hurtling down from the sky. The Golconda must be somewhere over Splitneck Canyon by this time. Unless the pilot had circled to gain altitude. Perhaps they wanted to drop him from such a great height that the plane could not be recognized.

TOMMY is fighting not only for his own life but for that of his father's. Will he win or will he go crashing down to destruction? Read the final chapter of this thrilling story of a boy's courage in the October issue of Model Airplane News, on sale at all news stands September 23rd, at only fifteen cents.

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#### Champions of Chivalry

(Continued from page 9)

the air. It played back and forth in search of the racing plane. Larry zoomed and immelmanned. Above the groan of his driving engine, there came to his ears the faint, shrill scream of a siren. Twenty miles away he saw another searchlight pierce the air with a ghostly finger.

"This is going to be real nice," he thought to himself. "What a sweet little game of hide-and-seek this is

going to be."

HE stalled his engine again and dived for the earth. He was in search of one definite landmark by which to place his position correctly. Larry knew that somewhere beneath him were the ruins of what had once been a splendid bridge across the Oise. According to Major Richards' map, he expected to find the big new guns entrenched along the line, running at right angles to the river. Did he dare risk dropping a Very light? It would be a dead give-away he knew; time for that later if there was no other way to succeed. As he swooped closer and closer to earth, the beams of light crisscrossed in the air. Just as his Camel lost momentum in her glide, Larry opened her wide and zoomed. He had to risk the enemy's seeing the flash from his ex-

From a thousand feet he looked down. The searchlights were playing from opposite angles. No matter what he did now, it was only a matter of moments till they picked him

"Well, old man, what is it to be?" he said to himself as he fondled the trigger of his Lewis gun. "I didn't expect to run into a tea-party, so let's go. I have to find that bridge and I know very well it's down there somewhere. I'll gamble on there somewhere. I'll gamble their being poor shots tonight."

He killed his engine again and dived for a point behind the circling searchlights, figuring that he would have a few seconds more time if he came up from behind. The lights below went through their sweeping arcs as Larry tried to penetrate the velvet-black night. Then, just when he was at the bottom of his swoop, one of the searching beams threw a broad band across his cockpit, wavered there a moment and then held him full in its glare. In a trice, the other two lights had converged on his plane.

On the instant all hell seemed to break loose below. Through a barrage of anti-aircraft bullets Larry hurtled his plane. The pung-pung of tracer bullets whistled by him, only to flatten out against his fuselage. Tilting his plane on her wing ends in a vertical bank, Larry raced again straight for the searching fingers of light. It was his plan then, to make a low, wide circle, hoping that as the searchlights followed him around, they would not only reveal the landmark he needed, but the

Ho! For the roar of engine and the sing of bullets! What matter if death held all the cards! Down, down, ever lower, Larry brought his Camel until he looked into the very jaws of the spitting guns and then, as he zoomed out of danger—success. The three searchlights in their sweeping circles converged into one and illumined in a glaring blaze of

very fortifications themselves.

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Tune in on the PHYSICAL CULTURE Hour each Monday evening and you will then want the magazine as well.

light the jagged piers of the de-molished bridge. The lights held there for only a moment but long enough for Larry to get his bearings. With a sure hand on the controls, he banked, side-slipped still lower and went spinning to the right. If the major's information was correct, he would soon discover the guns and their number as the lights followed

H IS simple scheme worked to perfection. Only a hundred feet above the ground, he charged, with the sweeping searchlights after him. Leaning far out of his cockpit-what matter now if sizzling death sped all about him-he counted the heavy Nine-Point Tens as the glaring lights picked them up one by one.

One, two, three, four, he counted and banked a hundred yards behind another battery of six. The major's information had been correct.

As Larry climbed to a safe altitude, it seemed to his straining ears that the anti-aircraft guns trained on his plane screamed with disap-pointed venom.

Gaining altitude rapidly, he gazed at the dials of the instrument-board and set a compass course for his own

"Just in time," was the thought; for, even as his tense nerves relaxed, the clouds thinned and cleared, showing a clear, star-spangled sky made splendid by a full-orbed, yellow moon.

ARRY was elated with his success, but his surge of happiness at having achieved so completely that which at first had seemed so difficult of accomplishment was short-lived. The roar of a high-powered engine, pitched to an even greater speed than his own, came sharply to his ears.

At the first sound of pursuit Larry drove his Camel to the limit, gaining height. There was no need for him to glance back to know that his pursuer was none other than his old friend of combat-the Count. had heard the roar of his engine so often that he felt he knew even the Count's touch on the throttle. And so, after all, his prediction to Sandy had come true. What a story he would have to tell when he got back-if he did.

He sighted down the barrel of his

Lewis gun.

A hurtling blackness in the night, trailed by a ten-foot sheet of flame from the exhaust, and the Count dived from straight above Larry, looped beneath him and came up spitting tracers into the Camel's fuselage. It was an unexpected attack and, even as Larry yanked his plane around, he heard another burst snap through his rigging. Dangerous as his position was, he marveled at the Count's skill and daring.

His hand was tense but steady on the controls as he side-slipped and dropped a sheer thousand feet. And then, as the Count plunged for his tail again, Larry righted his plane, pulled the stick as far back as she would go, jammed his rudder and zoomed to the left. Though his erratic course was not as strategic as the Count's first move, it was effective and, as the Albatross shot through the sights of his gun, he raked it with a burst from his Lewis. Larry again marveled at the quickthinking German, for the Count had anticipated his move and before he could get in a damaging burst the German plane was a hundred feet below him. Larry had clearly overshot his mark.

They maneuvered for position. The full moon came out to reveal to the fascinated watchers below the

prettiest bit of combat-stunting seen on the front for some time. Both Larry and the Count appreciated, in a perfectly disinterested spirit, the extreme dexterity of the other. them it was indeed a game of skill; death was an unconsidered incident. A half-hour they maneuvered in the brilliant moonlight, neither one gaining a decisive advantage, each one too skillful, too quick, too daring for the other to gain the vantage point over the blind spot. Burst after burst was fired until the guns in both planes glowed a dull red.

It was a desperate measure, one,

which if it failed, would lay the en-tire side of the ship open to the Count's attack, but Larry decided on it, nevertheless. Driving his ship alongside the Count's, he suddenly side-slipped beneath the German plane, rolled completely over, turned and came up over the tail of his opponent's Albatross. The move was so unexpected that for a moment the Count was at his mercy. Larry squeezed his trigger—and nothing happened. Overheated by the flaring bursts of tracer bullets, his gun had iammed.

And so this was to be the end. Well, surely no one had fought a better fight and if he must go down it was at the hand of a gallant foe.

Larry righted his plane and waited. There was nothing he could do. Flight never entered his mind; one cannot escape the inevitable. With a calmness that even surprised himself, he looked toward the Count's plane which rapidly drew up alongside him. So it was to be himself then? Quicker that way and better. No sickening, helpless crash to a shell-torn earth 10,000 feet below. The Count was still the gentle-

WITH a gesture of appreciation, which was at the same time a farewell token, Larry saluted the German. The Count as gravely returned the courtesy. Hail and farewell, with Death at the parting.

And then, while Larry looked in amazement, the Count did a strange thing. He doffed his leather helmet and smiled a broad, boyish, carefree smile. In the path of the moon the two sped wing to wing and then the German ace questioned Larry, with facile pantomime, concerning his

"Yes, it had jammed," Larry signaled back, finishing his gesture with a shrug of his shoulder.

The Count laughed in understand-

ing. His lips moved.
"Too bad," he seemed to call and, pursing his lips, he threw a kiss at Larry, dropped the nose of his plane and sped away.

A man is a man if so it is God's intention.

Late that night, after his report to Major Richards, Larry told his unbelievable story to a circle of appreciative friends. Next morning Larry took a tin of his best tobacco and carefully wrapped with it a mellow, nut-sweet, briar pipe, in the bowl of which reposed a paper on which were written the words: "Sir, I salute you, Foe and Gentleman!"

He addressed the packet, "To the Ace of Last Night's Battle" and. stepping into his plane, again headed for the German lines. He passed over them and raced for the German field some miles in the rear. With a surging swoop from the sky, he was down to within a hundred feet of the field and before the startled German flyers could jump for a plane, Larry tossed his packet over the side. He saw with pleasure that some one more agile than the rest had caught it and, waving his hand at them, disappeared as suddenly as he had come.

Acting on Larry's information, Major Richards completed his plans two days later and, calling his flight together in the hangar, laid it before them. The plan was simplicity itself, having as its primary object the disabling of the new German guns. What little detail there was, lay in the allotment of ships and men.

IRST in the V formation were to fly the fast one-seaters, these to be flanked on either side by heavier, stable dual-control ships. more Major Richards assigned Larry and Sandy to one of the convoy, with in-structions to do every thing possible to keep the formation intact.

With the sound of a thousand hurricanes, the thrashing propellers lashed the air, as the fleet of ships, at five second intervals, took to the air. Hardly had they flown across their own line when there droned from behind a bank of clouds above the enemy lines, a German circus, headed by the indomitable Count. They had undoubtedly been waiting for the advent of the Yanks and, counting on the advantage inherent in a surprise attack, they swooped into immediate action.

The dog-fight superb ensued! Larry held to the controls in the rear cockpit while Sandy brought his Lewis gun into action. Impossible now to keep position-every man for himself and a prayer for the unlucky one. All about, like savage dragonflies, planes were looping, zooming, rolling, twisting, turning. A black-crossed Fokker dived at Larry and they struggled futilely to get a crossfire on each other. The fight became hotter. The German pressed him hard. Larry did a wing-over and Sandy was quick enough to slash the German broadside-a burst of flame and the crippled plane hung for a moment in a stall before plunging down, a smoking funeral pyre.

Larry zoomed again, looking for new prey. To the right of him Tony Leighton held his own with a Boche Albatross, but even as he watched, fascinated, for a minute, the two planes zoomed suddenly together, head on, and plunged.

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As rapidly as they had come, the Germans disappeared. They were outnumbered three to one and it was the strategic thing for them to do. They had accomplished the complete disruption of the American circus and now retreated beyond their own lines, making a play for time.

lines, making a play for time.

Larry looked about. It was all over but the shouting. Then as a black-crossed ship flashed across the horizon, his heart skipped a beat. Killing his engine, he attracted Sandy's attention and pointed. There, a thousand feet below, was the Count.

"Just like him," thought Larry, "sticking around to the last. Waiting till three of our planes jump him before beginning to fight in earnest."

N the instant, two other Camels dived for the Count, but Larry was before them. With a commanding gesture, he waved them away. If the Count was to do any more fighting that afternoon, it was not to be against tremendous odds. It was to be with him. For once, the Count deserved the breaks. Larry's comrades obeyed, appreciating his request.

Slowly Larry overhauled the Count. Strange, but the German made no move. He flew straight ahead as if altogether unaware of the pursuing plane. It was only when directly above his tail that Larry sensed something was wrong. Just in time he restrained Sandy from sending in the fatal burst. He dropped the nose of his ship and drew up alongside the Albatross. The two planes sped together, even as they had done the night before.

With a flash of perception Larry realized why it was the Count had made no defensive move. He needed but one quick glance at that pale face and slumping figure in the cockpit to know that his gallant foe was either dead or unconscious. Deadand at the thought a heaviness came to Larry's heart. He looked again. No, the hand on the stick was guided by the blind, unconscious instinct of a dazed or mortally wounded man. At all events, he must find out. If the Count was wounded, surely he owed it to him to bring him safely down. If, on the other hand, he had been called to the last great adventure, then to him were due the full honors of a military funeral.

How long would those unconscious fingers keep the ship on an even keel? How soon would their grip relax to plunge the Count and his plane to destruction below? There was no telling, but Larry determined that if he must die in the struggle, he would attempt to bring the Count safely to earth. He told his dangerous intention to Sandy who seconded it with hearty approval. "Good old Sandy," thought Larry,

"Good old Sandy," thought Larry,
"the danger is as much his as mine."
As Sandy took the controls, Larry
climbed from the cockpit onto the

wings and slowly began to edge his

way toward the tips. Sandy's nerves steadied to the emergency. With a master hand he slowly nursed his small Camel closer and closer to the Albatross, until it seemed that inevitably their wings must lock. Further and further out on the wing inched Larry. One false step and death lay waiting for him 10,000 feet below. Imperceptibly the Camel crept in closer until it seemed to the watchers below that naught but a hairline separated them. An air pocket—a bump—and all would be over, not for one alone but for the three of them.

Another foot and Larry hung by one hand, poised at the very tip of the wing. Did Sandy dare bring his ship in closer to that unmanageable plane? For Larry's sake he risked it. Gently, gently, with hand and foot that felt for inches on the controls, he brought his ship's wing several feet above and slightly over that of the Albatross.

Larry hurtled through the air. Sandy swung his plane clear, held his breath and saw Larry land, stagger, drop to hands and knees, and then stay his slide down the doped wings of the German plane with a two-fingered clutch around a strut. From then on it was easy. Sandy circled overhead while Larry worked his way to the cockpit. As he climbed in, Sandy released his pent-up emotion with a mighty prayer of thankfulness.

the mouthpiece of his flask to the Count's blood-stained lips. He was rewarded by feeling a slight tremor surge through the youth's body. Two bullet wounds he found, both through the shoulder, obviously inflicted by the same burst. Another application of the flask and the Count's weary lids opened wide.

He looked dazedly into Larry's eyes and slowly swam back to consciousness. Feebly he smiled in recognition. It was some time before he realized the situation, but when the full knowledge of what Larry had done to save him had seeped into his returning consciousness, he reached a trembling hand to Larry's and held it there.

He smiled. They both smiled. It was enough.

With a great effort, the Count pursed his lips close to Larry's ear and spoke.

"Brave—a noble thing to do. Appreciation is not a thing for words." He paused while he gathered strength to continue. "But I carry with me papers. It is better that I crash than land behind your lines."

Larry understood and, if such a thing were possible, admired the gallant Count more than ever before. Words failed him but mastering the constricting lump in his throat, he spoke.

"Count, it is my word to you that you are no prisoner of mine. As soon as your wounds are healed, you have your liberty for the asking. We

shall be honored to entertain you. What is ours is yours. You shall be one of us."

Larry was glad to see the renewed light in the Count's eyes as he looked

"Sir." the Count said, bravely, attempting the official German salute, "Sir, I salute you-Foe and Gentleman.

HIGH noon! A glorious sun shines down from the placid, A glorious sun blue dome of heaven. High noon and springtime in the trenches give a promise of a better life to come. For here and there, as a symbol of life eternal, shoots of tender green spring up between the ruts of the shell-torn earth.

High noon! And all eyes in the opposing trenches gaze heavenward. For, rising, with slow, majestic sweep, advances an heroic cavalcade of the air. Leading the proud entourage, the apex of the ever-moving V, is a mighty German plane—an Albatross. Her haughty spread of wing is marked with the defiant German Cross. Each of her twenty escorts, which bank in rows of ten on either side, boasts the Red, the White, the Blue-the symbol of the glory of the United States.

Straight over the lines they wing their calm, imperial way. A moment they hover in mid-air and then the Albatross detaches itself from the line and glides to earth. Even as she descends, each spangled plane dips her nose in farewell salute.

The 104th had returned a gallant gentleman to his lines with all the honor due him.

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#### You Must Be Fit to Fly

(Continued from page 33)

you to eat. Don't forget good milk is a body builder. Take good care of your digestive system by eating the proper food at the proper time. Bear this in mind: a man with a weak stomach doesn't make a good flyer.

Be sure to get plenty of exercise: get out and play, don't be a house boy. Play good healthy games. There is nothing like lively sport to help develop a boy's lungs. Always have a window open in your room when you sleep, winter and summer. And last, but not least, take care of your teeth. Most pictures of big flyers show them smiling and displaying a fine set of teeth. Don't forget some day you may be a star flyer and have your picture in the papers, so brush your teeth every day, after each meal and before you go to bed.

The natural question for any boy to ask is "Why should I start now? It will be anywhere from five to ten years before I am ready to take up flying actively."

A boy who has an ambition to become a flyer can not start too early to prepare for his life-work. applies not only to aviation but to any other line of endeavor he might have mapped out for himself.

At the present time there are a great many war-time flyers holding down jobs in the commercial field. But each year will find the war-trained pilots growing less in number, while the young fellows who are training now will be taking their places.

O eliminate the great number of To eliminate the great interference in the flyers in the who will be applying for jobs in the near future, the aerial transport companies will be putting the applicants through harder tests than ever to weed out the poor flyers and get the best there is.

A man's ability to fly will of course have a great deal to do with his chances of getting a good position, but other factors will enter

in. Many fine flyers today-by this I mean fellows who are able to handle a plane perfectly-are not holding jobs with the big companies for the simple reason that all they know how to do is take a plane off and land it without crashing. If they were ordered to take a ship from New York to Pittsburgh, they might possibly get there; then again, they might land in Washington. All because they had not taken up aerial navigation, thinking that all there was to flying was the actual handling of the stick.

THE same thing applies to the young fellow who is dreaming of the day when he, too, will be an aviator and fly either the fast mail or one of the giant passenger planes. He can only reach this goal by starting early in life and applying himself to the subjects that every pilot of the future will have to have more than a mere smattering of, if he expects to hold down one of the really good jobs.

Don't forget that an airplane has a motor and the well-paid flyer will have to know more than the fact that a spark plug sparks. He will have to be a good meteorologist, so that a weather map won't be just a map with a funny looking bunch of lines on it. When flying cross-country he will be able to interpret different cloud formations, so that his chances of being caught in a storm will be lessened to a great extent. He will also have to understand the rigging of his plane, so that when he finds the ship is not flying right, he will be able to give the proper orders for the correction of the fault and to see that they are carried out. A thorough knowledge of maps will also be required. A pilot will have to understand every sign and mark on the strip which is being put out by the Department of Commerce.

The majority of men or boys tak-

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ing a course are satisfied to finish the required number of hours as soon as possible. Then, they study a few notes on the different subjects, take their examination, barely squeeze through, get their pilot's license and call themselves pilots when in reality they are only flyers and not what we would call honest-to-goodness pilots. Lindbergh had to have more than the ability to fly to get where he is today; he had to be well versed in all the other subjects I have mentioned.

The other day a high school junior came to me and outlined the course he had planned for himself. While still in high school, he is reading everything he can lay his hands on pertaining to aviation, at the

same time he is studying navigation and meteorology with his uncle who is a retired sea captain. After he graduates from high school, he intends taking a course in aeronautical engineering and during the summer he will learn to fly.

he will learn to fly.

Here is a young fellow with the right idea. He is starting at the very bottom and working up. If he should not succeed as a flyer he is going to be prepared to step into some other job in aviation which will pay him well for his forethought in starting early and we will find him a man of value to the industry.

So make an early start to reach your goal. But don't forget your first step. The care of your body. Physical fitness is the first requirement.

#### Macfadden Aviation Advisory Board

(Continued from page 39)

Answers

We suggest that you apply extra care in attaching the landing-gear struts. Secure fittings for the purpose and screw them in place. Do not use nails. Just before screwing parts together tightly, we suggest that you also use considerable cement.

Dear Sirs:

I am making a model airplane, the Floyd Bennett, but do not know how to buy my wood. There is reed, balsa and square wood. I would appreciate it if you could tell me the meaning of "square wood."

Very truly yours,
Morris Alexander.
78 Willington Hill St.,
Dorchester, Mass.

Answer

Square wood means wood which is of the same width on all four sides, A 1" piece of square wood means that each of the four sides measures 1".

Dear Sirs:

I have been reading the magazine Model Airplane News and saw the article about Floyd Bennett. I would appreciate it if you would please send me Mr. Klassen's address in full.

Very truly yours,
MELVIN FLANAGAN,
817 Alhambra Circle,
Coral Gables, Fla.

Answer:

We suggest that you write Mr. Klassen in care of Model Amplane News, and we shall see to it that your letter is forwarded to him.

Gentlemen:

I am building a model Ford

Tri-motor Monoplane. Please tell me which is best for covering, bamboo paper or Japanese silk? Yours truly,

Francis Lookabaugh, 223 Falls Ave., Youngstown, O.

Answer:

We suggest that you use the Japanese silk. You will find that this is more expensive than ordinary bamboo paper, but it makes a much neater looking job and will last considerably longer.

Gentlemen:

I have just purchased a copy of Model Airplane News and I think it is one of the best magazines I have ever read.

Since you promise to answer questions, I would like to ask you several. I have built many models and find that the longest flight I can get is about 240 seconds. This is with a twin pusher. I build my pushers very light. I have talked with other model builders. They tell me that it is because of the altitude. Could you tell me a remedy which would give me longer flight?

Very truly yours,
HARRY WAGNER,
2117 First Ave. So.,
Great Falls, Montana.

Answer:

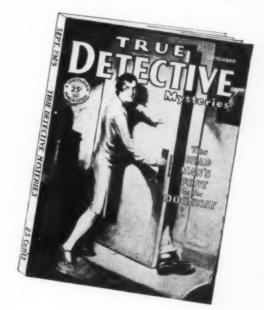
We feel that you have accomplished considerable if your models will fly for four minutes, as we know of hundreds of boys who are tickled to death if their models fly one minute. It might increase your time in the air if you use a slightly larger propeller blade which would make the propeller rotate a bit slower.

#### HOW TO BUILD Bellanca C. H. Monoplane Model Precourt R. O. W. Stick Model

In the next issue of Model Airplane News two of the prize-winning models of the New York Outdoor Meet will be found together with full-size plans and complete instructions for building. Get your copy of the October issue early. On all news stands September 23rd and only fifteen cents.

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